**National Surveillance System (NSS)**
**Transitional Islamic State of Afghanistan**

# Round One Surveillance Reports
# Belcheragh and Kohistan districts
# Sentinel Sites
# Faryab Province

(data collection: Fall 2003)

prepared by

**Save the Children**
**Federation, Inc. (USA)**
**Food Security and Nutritional**
**Surveillance Team**

in partnership with

**Faryab Province Surveillance Unit**

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**Ministry of Rural Rehabilitation and Development,**
**Ministry of Agriculture and Animal Husbandry, and**
**Ministry of Health**

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**November 27, 2004**

# Faryab Province Reports

## Belcheragh District Sentinel Sites

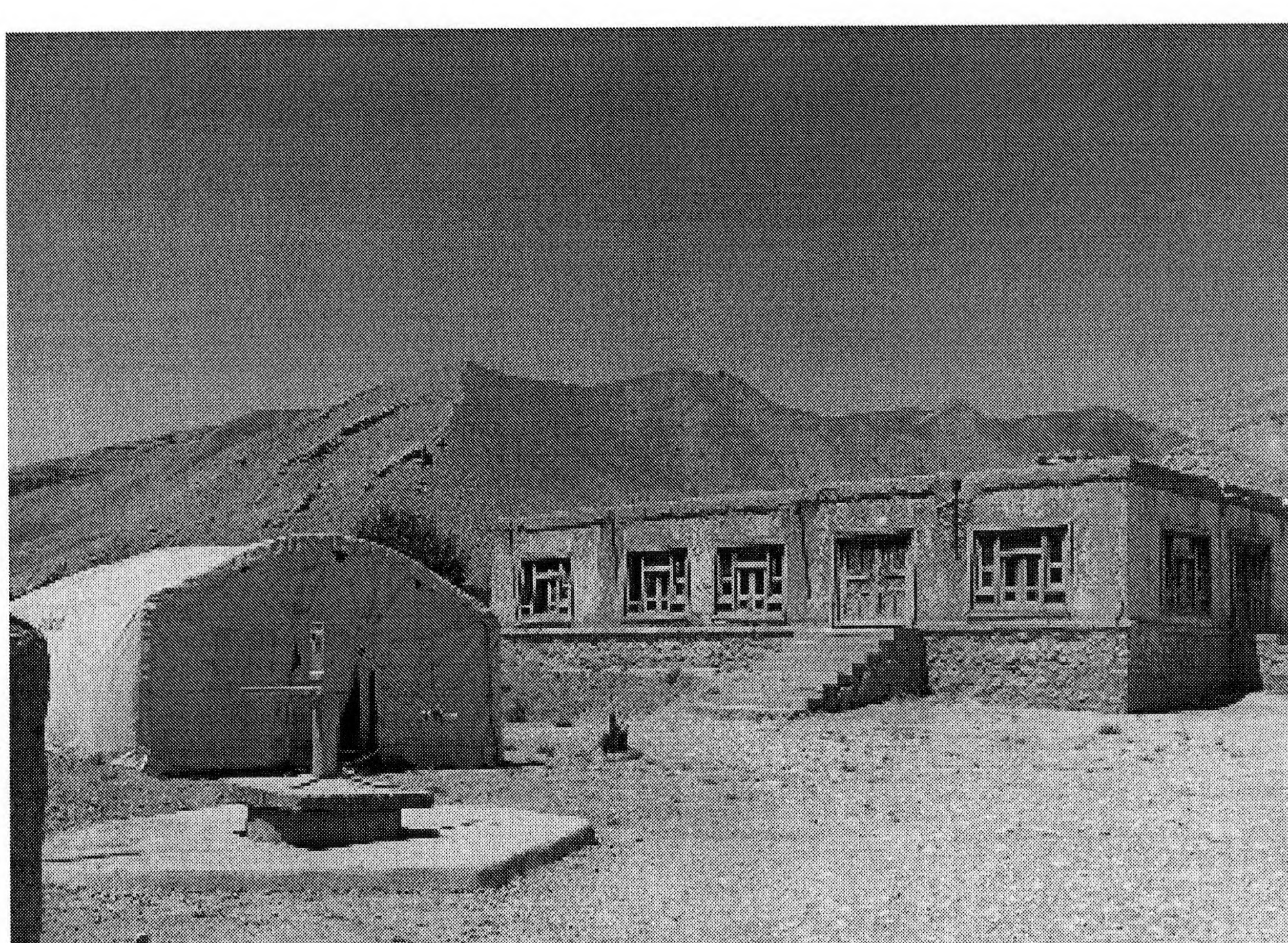


## Kohistan District Sentinel Sites



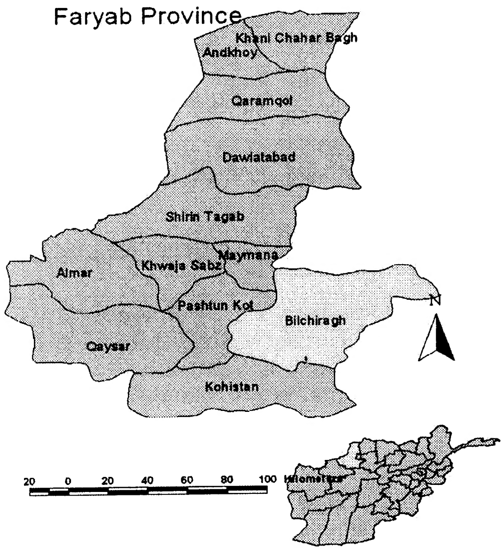
## NSS Methodology





**Tashqala school**

| | | |
|---|---|---|
| | **National Surveillance System (NSS)**<br>**Transitional Islamic State of Afghanistan** | **Belcheragh District**<br>Kamarak<br>Sentinel Site |
| **Faryab Surveillance Unit** | **Ministry of Rural Rehabilitation and Development, Ministry of Agriculture and Animal Husbandry, and Ministry of Health** | **Fall 2003** |




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**SUMMARY FINDINGS: KAMARAK**

**Food Security**

- 10% of households in Kamarak were chronically short of food
- In 2003, the rainfed wheat harvest improved over the harvest of 2002
- Families had a very low dietary diversity, especially medium-income and poor households

**Risk to Lives**

- At 2.32 deaths/10,000/day, the mortality rate for children <5 exceeds emergency thresholds
- Morbidity patterns for children under 5 were high (ARI: 38%, watery diarrhea: 42%)
- Only 6% of children had been immunized against measles in a region where measles is the leading cause of death
- The closest health care is 4-5 hours away by foot
- With population figures of 44% women and 56% men, women are at high risk of mortality

**Livelihood Security**

- A variety of diseases affected the livestock in the Kamarak area
- 92.5% of households thought that their total income had increased relative to the last year
- Households had benefited from the cultivation of poppies


**What is the NSS?**

The National Surveillance System monitors trends in key indicators to predict early signs of change and deterioration in food security, nutrition, and livelihoods. In conjunction with complementary data collection systems, the NSS provides relevant data for prioritizing limited resources and designing programs.

**Methodology**

The NSS is based on a sentinel site system, in which provincial level ministries follow a rotating cohort of households over time. Sites are selected so that they mirror the majority of the communities with respect to agro-ecological features, economic activities, available services, and people in a given area known as a livelihood or agro-ecological zone. Information from the sentinel site may not be representative of every village in the zone because of the diversity of livelihoods in Afghanistan. However, it is likely that the data from 1sentinel site can signal concern for other villages in the same zone. (Detailed information on methodology is given at the end of the final sentinel site report.)


Save the Children.

**The Faryab Provincial Surveillance Unit is supported by Save the Children USA and funded by DFID**

## REPORT OBJECTIVES

This document has several objectives. First, it intends to report information coming out of the National Surveillance System standardized methodology. Therefore, this report provides:

- current information on household food security status in Belcheragh district,
- information on risk to lives and nutritional risk to individuals in Belcheragh district,
- information on the current household livelihood security situation in Belcheragh district, specifically looking at current shocks to livelihoods and the ability of households to adapt to these shocks, and
- better understanding of the vulnerability and risk of communities and households in Belcheragh in relation to issues of food security, mortality, health, and nutrition.

Secondly, this report provides baseline information on indicators that are unique to a local area but had never before been explored in the depth needed for use in guiding programs and policies. These indicators reveal:

- characteristics of household wealth in Belcheragh district;
- the presence of malnutrition, morbidity, and mortality in rural communities in Belcheragh district; and
- types of livelihood strategies employed in Belcheragh district.

Finally, the report aims to suggest how government and other agencies can use this new understanding about livelihoods, vulnerability, and risk for designing and prioritizing program interventions and effective policies.

## BELCHERAGH DISTRICT LIVELIHOOD ZONES

Belcheragh is an elongated mountainous district in southeastern Faryab Province. Gorziwan District, to the south, used to be part of a much larger Belcheragh District. The current district follows the Belcheragh River running from east to west through a wide valley. The river originates in springs to the east and flows towards Belcheragh center where it is joined by the larger Gorziwan River originating in the Haft Tagab valley of Gorziwan district. Together the rivers run towards Maimana and provide water all the way to Andkhoy in the far north of the province.

Belcheragh District encompasses 10,050 *jeribs* of irrigated land and 184,000 *jeribs* of rainfed land. The name Belcheragh comes from Dari for shovel or *bel*, and lamp or *cheragh*. The people from Belcheragh were known for working their lands at night using a shovel and a lamp.

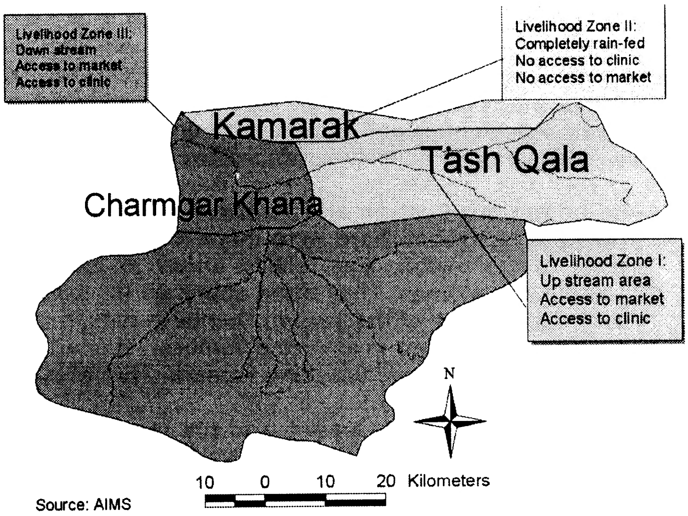
Villages in Belcheragh District sit at altitudes that range from 1,085 meters in the west to 1,700 meters in the east, while villages in the northern mountainous part are above 2,000 meters. Belcheragh has an estimated population of 70,384 according to World Food Programme statistics from 2001. During the spring melt, Belcheragh District may be cut off for a few days from the rest of the province because of high water in the main rivers.

Belcheragh is divided in half, ethnically, with Uzbeks dominating in the west and Tajiks dominating in the east. At different times in the past, Belcheragh governors have affiliated with the Hisb-i Islami, Jamiat-i Islami, and Jumbesh political parties. The current Belcheragh governor has links with the Jumbesh party.

The people in Belcheragh cultivate crops in the summer, fall, and spring and 90% of the households surveyed produced income through crops, primarily wheat, barley, potatoes, rice, flax, and sesame. Wood from poplar trees also serves as an important cash crop. Wild cumin, mushrooms, the fennel-like asafetida, and *ing,* a medicinal root for stomach ailments that is highly valued and exported to India, are collected in certain seasons to provide additional cash. Livestock products provide an important variation to the diet. Some households living near the river also have access to fish.

Belcheragh can be divided into 3 distinct livelihood zones. A sentinel site was chosen from each area and this report includes information on the sentinel site from Zone I, Kamarak (see map).

**Zone 1: Rainfed Land (Kamarak)**
Zone 1 covers the northern part of Belcheragh. These villages are found on high flat rainfed plains, where the main crop is wheat. Livestock plays an important role. Access to markets or services is possible only by donkey or on foot and they are 5 hours away. Access to water is limited with some small springs and rain water collection during the winter in *dands*, hand dug pools. Only a few villages have schools for boys and girls supported by the Ministry of Education.




**Zone 2: Grazing Land, Rainfed Land and Irrigated Land (Tashqala)**
This zone is located upstream in the eastern part of Belcheragh. Livestock and agriculture are important sources of income. A large part of the land is located on rainfed hills, while the majority of people live in the valley on both banks of the river where irrigated land is cultivated. The river depends on water from springs located in Qurchi that may run dry during the summer months. The largest market for Tashqala is Belcheragh center, which is 2 hours away by car. As the people from Tashqala and surrounding villages are mainly from the Tajik ethnic group, they often use Sar-i Pul market, which is 3-4 hours away by car, or Darzab market in Jawzjan, which is 4 hours awat by donkey. Both boys and girls attend school in most villages, although only a few villages have school buildings so most classes are held in tents.

**Zone 3: Mixed Irrigated and Rainfed Land (Charemgary)**
Zone 3 covers the downstream western part of the Belcheragh District. Most villages in this zone are located near the riverbanks. The zone is downstream from the confluence of the Belcheragh and Gorziwan rivers. Water in this zone is available in large quantities all year round and irrigated agriculture is an important activity. In addition, the water is often used as a source of power for either electricity or mills and as a source of fish. Most villages in this zone are also located on the main road between Maimana and Belcheragh center and have good access to markets and health services. In most villages, boys and girls attend school, although there are no school buildings and classes take place in tents.

## KAMARAK GENERAL INFORMATION

### Geographical Background

Kamarak is located in the northwest of Belcheragh District at an altitude of 1,741 meters. It has long cold winters and hot summers. The main market is Belcheragh center, which is 4 hours away on foot or by donkey along a narrow road. Sometimes Kamarak residents use Darzab market in Jawzjan, which is the same distance away. There is no access to Kamarak by vehicle.

Kamarak has no reliable water source. Ten years ago, a strong earthquake brought down part of the mountain where a dependable spring had been located, killing several families that lived nearby and cutting off the spring that now produces only small amounts of water. Currently the people from Kamarak collect water from a spring in Aqbolak, about an hour away on foot. Kamarak comes from the word *kamar* which means waist. Kamarak acquired the name because of its situation at the low point on a ridge that separates Belcheragh from Darzab district in Jawzjan Province.

The people identify themselves mainly as Aimak, closely related to Tajik, and they speak Dari. The village currently has 3 mosques with 134 families spread over 2 hillsides. Average household size in Kamarak matches the average Afghanistan family size of 6.1 members per household. Better-off households in Kamarak generally have more members than medium-income and poor households. Better-off households tend to remain in joint families while poor households tend to split into nuclear families as soon as sons are married. At the time of the survey, Kamarak had many more men than women: 56.1% men and 43.9% women. This suggests high mortality rates among women in Kamarak.

| Average Household Size | |
|---|---|
| **Better-off** | **7.3** |
| **Medium-income** | **6.1** |
| **Poor** | **5.9** |
| **All households** | **6.1** |

Information for this report was collected in 2 surveys. The first was a baseline surveillance data collection in November 2002 and the second was a survey using the standardized national food security and nutrition surveillance questionnaires, conducted in November 2003. Most of the information presented in this report was collected during the November 2003 survey based on interviews with male and female focus groups and 40 households. The households interviewed in 2003 were the same 40 households interviewed in 2002.

**Administrative System and Political Affiliation**
In the past 23 years there were major conflicts between Hisb-i Islami, Jamiat-i Islami, and Jumbesh parties in the region. The Taliban arrived in Belcheragh District in 1996, but only made it up to Kamarak a few times. They often appeared for military purposes rather than to influence the village. With the departure of the Taliban, Jumbesh took in control. People in Kamarak tend to solve their own problems rather than involve the Jumbesh-supported Uzbek governor located in Belcheragh center. However, every village, including Kamarak, provides soldiers to the governor for security.

The *kariador,* or village leader, and the *shura,* group of decision-making elders, handle village level decisions. They have official administrative links to the district center of Belcheragh. People pay taxes based on wheat harvests and the collection of *ing* (asafetida), a pungent resin produced from a type of fennel and used as a spice in Indian cooking. This tax is collected by the village leader and submitted to the district governor in Belcheragh center every year.

**Social Institutions**
Although this survey did not measure community social structures directly, it asked about certain behaviors that reflect the existence of community social networks and safety nets. People in Kamarak practice a tradition of community contributions for public improvements such as road and mosque construction, canal cleaning, and agricultural efforts.

In the previous 4 months, 28% of the households had taken loans. They took these loans to pay for weddings, donkeys, or daily living expenses. The relationships between lenders and borrowers were not entirely clear, but there does seem to be an active system of lending that provides a safety net for some households during certain years or seasons. Additionally, households noted they had kept the Islamic practice of *zaqat,* or tithes, with better-off households giving a portion of their income to poor households. A full 32 of the 40 surveyed households had received gifts, gleaning, and *zaqat* as an income source in the 4 months prior to the survey. Lastly, with 75% of households having borrowed food from a relative in order to make a meal, social networks in this area appear to be strong.

**Community Facilities**
Both boys and girls go to the school in the mosque. Teachers are appointed locally and the school is not administered by the Ministry of Education. There are no health facilities in Kamarak and people must travel to Belcheragh center where there is an NGO-supported comprehensive health center (CHC). This is 4-5 hours away on foot or by donkey. Health issues will be discussed in greater detail in the Risk to Lives section of this report.

**Local Perceptions of Socioeconomic Status/Wealth**
The community divided households into 3 different wealth groups or socioeconomic categories. The better-off made up 10% of the households, medium-income made up 30%, and poor made up 60% of the households. The following table describes the typical characteristics of each wealth group. These wealth groups will be used throughout the report to clarify the relative differences in food security, risk to lives, and livelihood security. Children's perceptions of better-off and poor characteristics were also collected.

A better-off household has up to 200 *jeribs* of land, large numbers of sheep and goats, and a milk cow. They also tend to have larger houses, including a guestroom where male guests can be entertained without disturbing the females of the household. They have several donkeys and oxen. Girls said women have many coins sewn to their clothes and often have other women doing work for them. Boys said that a better-off household hires a shepherd to look after the goats and sheep, rather than the boys of the family having to do this. They also said a better-off family has the means to travel, even abroad.

A poor family was identified as having no, or a limited amount of, land. A poor family does not have milk cows, and has no or only a few livestock. It receives *zaqat* and its wedding expenses are less than half of those of the better-off families. Children said a poor household has a small area of land, often far away from the village. It lacks the resources, such as a donkey, to travel out of the village, even when a family member needs medical care. It does not have carpets or dishes.

| Assets and activities | Wealth Group | | |
|---|---|---|---|
| | Better-off (10%) | Medium-Income(30%) | Poor (60%) |
| **Male group perception** | | | |
| Land | 100 - 200 *jeribs* | 50 - 80 *jeribs* | 0-10 *jeribs* |
| Sheep/goats | 50-100 | 10-20 | 0-5 |
| Money | 2,000-3,000 USD | 100 – 5,000USD | 0 |
| House | 4-6 rooms | 2 – 3 rooms | 2 rooms |
| Donkey | 3 | 2 | 1 |
| Horse | 1 | 0 | 0 |
| Oxen | 2 | 1 | 0 |
| Guest and guest room | has | none | none |
| Clothes and Jewels | has more | has less | has less |
| *Gilim* | 4 | 2 | 1 |
| Travel to Iran and other cities | goes | goes | none |
| Haj trip | has | has | has |
| Employment | people work for him | does own work | works for others |
| *Zaqat* | gives *zaqat* | Sometimes gives *zaqat* | receives *zaqat* |
| Wedding expenses | 12,000 USD | 8,000 USD | 6,000 USD |
| **Female group perception** | | | |
| Land | 60-100 *jeribs* of irrigated land | 20-50 *jeribs* | 0 |
| Sheep/goats | 100-150 | 50-70 | none |
| House | has | has | has |
| Donkey | 2 | 1 | 0 |
| Milk cow | 1-2 | 1 | none |
| Oxen | 2 | 1 | none |
| *Gilim* | 3 | 2 | 1 |
| Jewels | has | has | none |
| Guest and guest room | has | none | none |
| Employment | people work for her | does her own work | works for others |
| *Zaqat* | gives *zaqat* | give *zaqat* | receives *zaqat* |
| Wedding expenses | 12,000 USD | 8,000 USD | 6,000 USD |

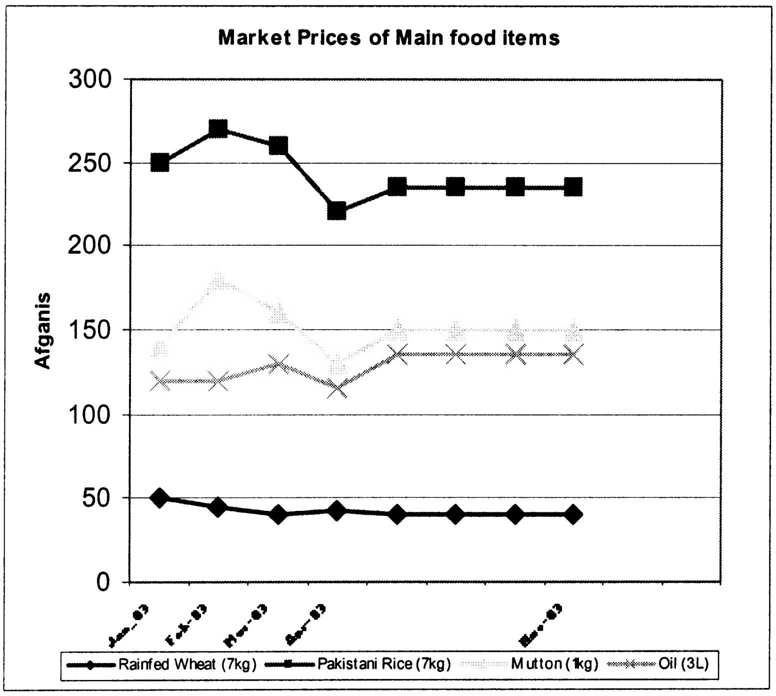
## KAMARAK FOOD SECURITY

Certain indicators reveal information about access, availability, and quality components of food security. Monitoring these indicators can track changes in food security at a sentinel site, identify households' current food security status, and provide information on the nature of any food insecurity.

### Market Access

Belcheragh and Darzab centers are the closest food markets for Kamarak and nearby villages. Earlier, there had been no road access at all to the Belcheragh market from Kamarak, but recently the old track had been repaired through a food-for-work project. However, this road will not take cars. Both Belcheragh and Darzab markets are 4 hours away by donkey or on foot. People sometimes use Darzab market because Darzab is mainly Tajik and Aimak, like Kamarak, and because the price of food is less due to Darzab's proximity to Shiberghan, the major center in the north. People from Kamarak trade livestock, plants that they have gathered like cumin and asafetida, wheat, and other crops for food and non-food items at market. Recently they restarted production of *gilims* and embroidered hats to sell in the market.

| Market location | Time to reach market | | Round trip cost | Market accessible in winter and spring? |
|---|---|---|---|---|
| | Vehicle | Foot | | |
| Belcheragh | 0 | 3-4 hours | 0 | yes |
| Darzab | 0 | 3-4 hours | 0 | yes |

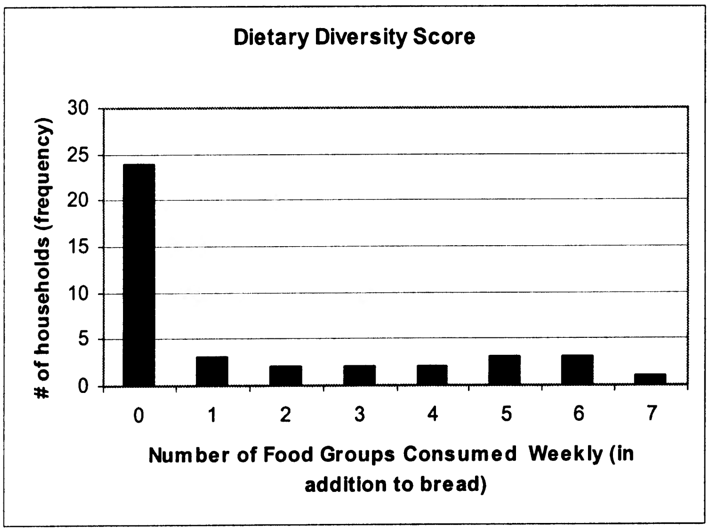



Market transactions usually take place in cash. Most households send 1household member to the market on a weekly basis during the spring, summer, autumn and winter. Both Belcheragh and Darzab markets are accessible by donkey all year round.

Before the drought, small traders had traversed the region exchanging their wares for local wheat, cumin, watermelon seed, asafetida, animal skins, *kurk*, and *krut*. Now that the price of wheat had declined and local goods had become scarce, the traders no longer visited the region.

**Market Prices[1]**
Price data were collected from Belcheragh market during early 2003 and then starting again during late 2003. Based on the data in the graph to the left, the price of wheat declined slightly. Both rice and mutton prices varied, with high prices during the spring. Oil slightly increased in price, with a dip in April.

**Dietary Diversity and Dietary Quality**
Dietary diversity is a primary component of food security. Previous studies show that dietary habits in Afghanistan are not very diverse. Consequently, people risk having micronutrient deficiency disorders and related diseases. It is not entirely clear how dietary preferences and available food types interact to determine household dietary patterns. To better understand the quality of diets during the previous 4 months, surveyors asked about the frequency of eating foods from different food groups.




These results were used to create a dietary diversity score to capture dietary quality and to monitor it over time. The diversity score is calculated by attributing a score of 1.0 to each food group that was eaten at least once weekly. Thus, households with a higher diversity score have a more diverse diet. Repeated surveys throughout the country have indicated that most households consume cereals on a daily basis and thus cereals were not included in the diet diversity score. Earlier baseline surveys in the area suggested that most households consumed oil and so this was not included in the score either. The graph on the left reflects the frequency of food group consumption during the previous 4 months, excluding Ramadan and festivals. The majority of households in Kamarak lived on cereal and oil.

The relationship between wealth groups and dietary diversity is explored in the table below. All wealth groups had consumed a low number of pulses and leafy green vegetables. The low intake of pulses, such as peas and beans, can only be explained by cultural preferences, but the low intake of leafy green vegetables can be explained by the seasonality of the crop. Meat was most consumed by the

[1] Price data are not available for May 03 till October 03.

better-off, while the other wealth groups consumed meat only 1 or 2 times a month. Better-off households also scored high on other vegetables and fruit. Milk, yogurt, and *krut* had been consumed by most households with differences between wealth groups.

**Average Frequency of Food Group Consumption by Wealth Group**

| Wealth group | Meat | Milk, yogurt, *krut*, etc. | Eggs | Pulses | Leafy green vegetables | Other vegetables | Fruits | 1 = Never eat<br>2 ≤ Once a month<br>3 = 2 to 3 times a month<br>4 = Once weekly<br>5 = Twice weekly<br>6 = 3 to 5 times weekly<br>7 = Always eat |
|---|---|---|---|---|---|---|---|---|
| Better-off | 4.5 | 3.3 | 3.5 | 2.3 | 2.8 | 5.5 | 4.8 | |
| Medium-income | 2.9 | 2.8 | 3.3 | 1.9 | 1.9 | 3.9 | 3.8 | |
| Poor | 2.3 | 2.3 | 2.4 | 1.6 | 1.7 | 3.5 | 2.5 | |
| All households | 2.7 | 2.6 | 2.8 | 1.8 | 1.9 | 3.9 | 3.2 | |

## Crop Production

Rural and semi-rural areas in Afghanistan are still highly dependent on subsistence agriculture for their own food, so monitoring annual crop yields and amounts planted can help predict the food security situation of households. In Kamarak, 90% of households were engaged in agricultural production and 62.5% of households had produce crops as their primary source of income.

### 2003 Harvest

In 2003, 92.5% of Kamarak households planted rainfed wheat while only 62.5% had planted it in 2002. The average amount of wheat harvested per household in 2003 was 131 *seers*, higher than the 2002 average yield of 98 *seers*. The wheat yields for each wealth group also increased in 2003 compared to 2002, with the better-off households almost doubling their yield. The yield for barley decreased in 2003 as compared to 2002 for the medium-income and poor households. The differences in yields may be attributable to improved seeds used by the better-off households. Households had a better wheat harvest in 2003 than in 2002, contributing to an improving food security situation for this region.

| **2003 Harvest** | **Rainfed wheat (*seers*)** | | **Barley (*seers*)** | |
|---|---|---|---|---|
| | **2002** | **2003** | **2002** | **2003** |
| Better-off | 178 | 338 | 30 | 40 |
| Medium-income | 104 | 142 | 50 | 39 |
| Poor | 59 | 88.5 | 49 | 37.5 |
| **All households** | **98** | **134** | **46** | **38.5** |
| *# of households* | 25 | 36 | 7 | 15 |

### Food Security Perception

Household perception of food security is an important indicator of current food security status. In Kamarak, 5% of the households considered the food situation worse than the previous year and worse than 4 months ago. Of the surveyed households, 15% thought they had not had enough to eat in the previous 4 months and 5% of the households had worried 3 to 6 times a month about where their food would come from. One household expected the situation to be worse in the approaching winter months and 78% answered that they did not know if it would be or not.

| **Perception of Food Security Indicators** | % of 40 households |
|---|---|
| Consider food situation to be **worse** in comparison to 4 months ago | 5 % |
| Consider food situation to be **worse** than 1year ago | 5 % |
| Considered food situation to not be sufficient at time of survey | 15 % |
| Worried where their food was coming at the time of survey | 8 % |
| Expect the food situation to be **worse** in the next 4 months | 3 % |

### Conclusion: Current Food Security Status

The data on crops harvested in 2003 and 2002 and the household perceptions of food security status indicate an improvement in the household food security situation since the drought. However, dietary diversity is still a grave concern for all households in Kamarak, particularly during the fall and winter seasons. The effect that a low quality diet has on disease and mortality, and therefore on economic productivity, is not entirely clear and needs to be further explored. Education on dietary diversity, with a focus on how to access all essential nutrients using local foods and how to complement cereals with pulses to get full proteins, could improve the quality of diets in Kamarak. The food security of most households was improving as they recovered from the drought, but these households continued to worry about their economic situation.

## KAMARAK RISKS TO LIVES

Indicators monitoring the risk to lives at sentinel sites can signal regions where individuals are more vulnerable and reveal underlying causes of increased risk. These indicators help gain better understanding of relationships involving nutrition, sanitation, morbidity, and mortality.

### Mortality Indicators

The survey found that the crude mortality rate (CMR) for Kamarak was 0.7 deaths/10,000 people/day. This rate was above the normal developing country level of 0.5 deaths/10,000 people/day but below the emergency threshold rate of 1.0 death/10,000 people/day. The mortality rate for children <5 was 2.32 deaths/10,000 people/day. This rate was above the normal developing country rate of 1.0 death/10,000 people/day and it was higher than the emergency threshold rate of 2.0 deaths/10,000 people/day.

Of all the deaths among women of childbearing age in Afghanistan, 48% are due to complications during pregnancy or childbirth. Additionally, if their mothers die in childbirth, newborns only have a 25% chance of survival; most die within the first month due to malnutrition.[2] Because of the high rate of maternal and child mortality in Afghanistan, this study also looked at the number of children who had a skilled birth attendant present at delivery as a proxy for risk to lives of both the mothers giving birth and the new infants. In Kamarak, 1child had been born in the previous 4 months, but without the aid of a skilled birth attendant. [3]

| Risk to Lives Indicators | % |
|---|---|
| **Mortality indicators**[4] | |
| Crude mortality (deaths/10,000/day) | 0.7 |
| Under 5 mortality (deaths/10,000/day) | 2.32 |
| Births in last 4 months attended by a skilled birth attendant (n=1) | 0.0 |
| **Morbidity indicators** | |
| Children <5 years with watery diarrhea (two week period) (n=24) | 42.0 |
| Children <5 years with bloody diarrhea (two week period) (n=24) | 2.0 |
| Children <5 with ARI (two week period) (n=24) | 38.0 |
| Children between 6 and 59 months with measles vaccination (n=24) | 6.0 |
| **Child anthropometric status (WFH % of median and MUAC)** | |
| Children with severe and moderate acute malnutrition, and edema (n=24) | 0.0[5] |
| Children between 6 months and 59 months with edema (n=24) | 0.0 |
| Children between 6 and 59 months with severe acute malnutrition (n=24) | 0.0 |
| Children between 6 and 59 months with moderate acute malnutrition (n=24) | 0.0 |
| Children between 1 year and 59 months with a MUAC under 13.5 cm (n=16) | 6.3 |
| Children between 1 year and 59 months with a MUAC under 12 cm (n=16) | 0.0 |
| **Adult women anthropometric atatus** | |
| Reproductive age women (15-49 years) with a MUAC <23.0 cm (n=33) | 10.8 |
| Reproductive age women (15-49 years) with a MUAC <21.0 cm (n=33) | 0.0 |
| **Micronutrient deficiencies** | |
| Households with iodized salt (only includes households with salt) (n=40) | 0.0 |

### Morbidity Indicators

Morbidity indicators in the surveillance system are associated with a risk of death and are the primary causes of death for children <5 in Afghanistan. The incidence of watery diarrhea in <5 Kamarak children was 42%, which is high enough to cause concern. As sanitation is poor in the village, diarrhea cases could be linked directly to the lack of proper hygiene practices. In Kamarak 2% of children <5 had bloody diarrhea.

The survey found that 38% of children <5 had suffered from acute respiratory infections (ARI). Past surveys in this area noticed a higher incidence of infections during the winter and lower incidence during the summer. Since this survey took place at the beginning of winter, the change of temperature could have been partially responsible for this higher figure. Additionally, because of overcrowding and poor ventilation during the winter months and the lack of adequate health and sanitation facilities, children are continually susceptible to ARI infections.

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[2] MoH Afghanistan/UNICEF/CDC, 2002

[3] Because this question was only asked to female caregivers who had birthed a child in the last 4 months, it did not include stillbirths or children who had died during the last 4 months, so there actually may have been more births in the site in the last 4 months.

[4] The mortality rate was calculated by collecting information on village deaths from the community *mullah*. This method of calculation is being piloted for the Afghanistan context and may be misleading when comparing the figures to standardized WHO mortality rate cut-offs. Thus, the mortality rate should be interpreted with caution until the pilot finding results are finalized.

[5] Malnutrition levels are reported based on a small cohort sample and should only be interpreted over time in order to understand shifts in nutritional status. Because the sample was randomly selected, these shifts are meant to reflect shifts in both the whole sentinel site populations as well as the whole livelihood zone population.

According to official statistics, measles vaccination coverage in Afghanistan is 95%. Ministry of Health (MoH) figures for the Belcheragh area report a coverage of 96% as a result of the World Health Organisation (WHO) and MoH sponsored measles campaign in June 2003. However, this survey found only 6% of children <5 had been immunized against measles in Kamarak. This is very worrying, since measles is the primary cause of death among children in the region.

**Children's Nutritional Status**
Using weight for height (WFH) percentage of the median, the survey found no global acute malnutrition (GAM) prevalence for children between 6 and 59 months.

Children classified by middle upper arm circumference (MUAC) measurements as moderately malnourished at <12.0 cm are potentially at risk of death. None of the children in the survey had a MUAC <12.0 cm and none were at risk of malnutrition at <13.5cm. These figures along with the WFH results suggest that malnutrition for children<5 was not a cause of concern in Kamarak.

**Adult Women's Nutritional Status**
Low MUACs in reproductive-age women have been associated with high child and maternal mortality, making it an important indicator for increased risks to adult women's mortality. The survey found that more than 10% of women had a MUAC below 23.0 cm while had a MUAC below 21.0 cm. Additional information on cut-off standards needs to be developed to better interpret the implications of the percentage of women with a MUAC <23.0 cm.

The lower proportion of women to men in Kamarak suggests that the women, and therefore their children, are the ones dying. This may be linked to maternal mortality. Early marriage is common in Kamarak and young girls tend to have early pregnancies, increasing the risk of maternal deaths.

**Micronutrient Deficiencies: Iodine**
Presence of iodized salt in the house is a proxy for its use and for iodine deficiency. Iodine deficiency is linked to the following disorders:

- In all individuals: goiter and loss of energy
- In pregnant women: miscarriages, stillbirths, and mentally retarded children
- In children: impaired mental and physical development, mental retardation, physical deformities, and cretinism

No households had iodized salt because they use salt that is locally mined.

**Health Facilities**
The following table lists the health services or facilities that are available to the people in Kamarak. The only health service within the community is a group of traditional birth attendants. The closest formal health care is the Comprehensive Health Center (CHC) and the private doctor located in Belcheragh Center. The trip takes 4 to 5 hours on foot or by donkey. The private doctor who prescribes medicines from a market shop charges a 50 Afghani fee. The CHC was supported by an international non-government organization (NGO) at the time of the survey but there were indications that the international NGO would stop supporting it. The CHC has a registration fee, but all consultations and available essential medicines are free. Two doctors are present at the CHC at all times.

Other alternatives require a trip to Maimana, the provincial capital. Getting there requires a 3 to 4 hour foot journey to the main road, followed by a 3 to 4 hour car journey costing 450 Afs. In Maimana, patients from Kamarak go to a private doctor first, costing 30 Afs. If an operation is needed they will then go to the provincial hospital and pay about 5,000 Afs to have a procedure performed. Community members said that only the better-off households would travel to Maimana for care and only in extreme cases. Health facility usage had increased because of NGO support for the CHC, health education programs, road improvements, and better economic circumstances.

| Health Facilities and Services | Facility / service provider location | Time to reach facility | Round trip cost | Facility access | Facility accessible in winter and spring? |
|---|---|---|---|---|---|
| Health posts | none | -- | -- | -- | -- |
| Basic Health Center | none | -- | -- | -- | -- |
| Comprehensive Health Center | Belcheragh Center | 4-5 hours | -- | everybody | yes |
| Hospital | Maimana | 8 hours | 430 Afs | everybody | yes |
| Traditional healers/birth attendants | Kamarak, Charemgary | <1 hour | 0 | women | yes |
| Skilled birth attendant | Belcheragh center | 4-5 hours | -- | women | yes |
| Private doctor | Belcheragh center | 4-5 hours | -- | everybody | yes |

Both women and men identified health care as their second most important request for outside assistance, after better access to water.

**Water Sources for Household Use**
Kamarak has no reliable water source. Ten years ago, a strong earthquake brought down part of the mountain where a dependable spring had been located, killing several families who lived nearby and cutting off the spring. Now the spring provides only a trickle of water, which currently irrigates a nearby plot of land. The people of Kamarak obtain water for household use from Aqbolak spring located an hour away, from the river located 3 hours away, and from *dands*, natural depressions that have been dug out and turned into cisterns where rainwater is collected and stored for use.

Fetching water from the spring in Aqbolak takes more than 2 hours. It is mainly the men who fetch water from the spring using donkeys with 15 liter tanks. Every other week the women go to the spring to do laundry and to bathe.

During the dry summer months the households go to the river in the valley to collect water. This takes 6 hours round trip. Most people have 1or more donkeys. Those households who do not have donkeys collect water at night when it is cooler. During the winter months, when it is raining or snowing, most households cover their roofs with plastic to collect the rainwater.

| Drinking Water Source (in order of use) | Time used to collect water | Quality Δ since last year | Quantity Δ since last year |
|---|---|---|---|
| **Spring** | 2 to 3 hours round trip | same | same |
| **River** | ±8 hours round trip | same | same |
| **Collecting rainwater on roof** | <1 hour | same | same |
| ***Dand*** | <1 hour | same | same |

Just before the rains, people also prepare the *dands* in the hills around the village. *Dand* water is mainly used for animals or for hygiene purposes. The *dand* water is often contaminated with animal dung because the animals have free access to the *dands*.

**Sanitation Facilities**
In Kamarak a large number of households have vault latrines, but others have no toilets. Waste from the vault latrines is used as fertilizer for crops. Most of the children use open fields for defecation. Animal dung from animals kept at the house, such as the milk cow and donkey, is dried for use as fuel.

**Conclusion: Risk to Lives**
During the 4 months before the survey, the crude mortality rate in Kamarak was high relative to the normal rate for developing countries. Mortality rates for children <5 were above emergency threshold levels. Morbidity patterns for children <5 were high and can be linked to the high mortality in the area. At 6% the extremely low measles vaccination coverage shows that the campaign had not reached Kamarak, a very serious problem. In upcoming campaigns, measles vaccination coverage must improve.

The population figures suggest that women were at higher risk than men because proportions were skewed: 43.9% women and 56.1% men. This may point to high death rates among women in Kamarak, most likely linked to maternal mortality. Options for reducing maternal mortality in Kamarak include education about family spacing, birth planning, delaying marriage/pregnancy, and safe birth practices.

Options for reducing mortality of children in Kamarak include health and nutrition education (particularly hygiene), safe water, and dietary diversity. Increasing the quantity of good water through community water projects like the construction of better *dands* and livestock watering schemes as well as the rehabilitation of the local spring will contribute to better hygiene practices, especially if complemented by hygiene education.

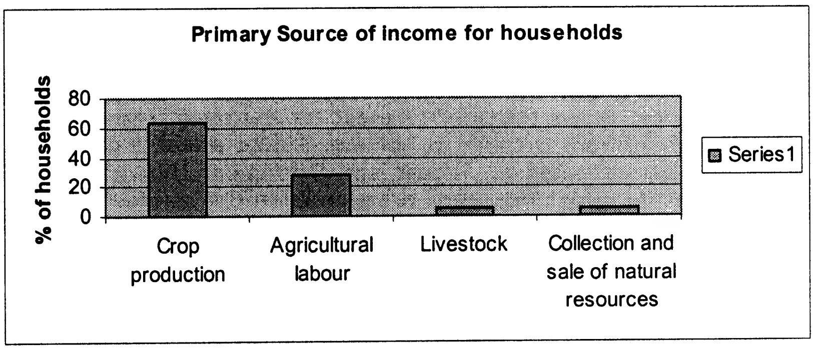
Distance to health care will continue to be a problem for the people of Kamarak and the surrounding area. Until local people are trained in basic health care as community health workers or doctors start to visit outlying areas on a rotation system, health care will not improve in the near future. It is essential that traditional birth attendants are trained in safe birth practices.

## KAMARAK LIVELIHOOD SECURITY

Livelihood security indicators focus on the livelihood strategies of households within a community. They reveal livelihood assets related to particular income sources and expose current shocks to livelihood sources as well as households' abilities to cope with these shocks. Analysis of these indicators could provide agencies with sufficient information to decide whether there is a need to respond to a current shock. Finally, examination of coping strategies can identify characteristics of particularly vulnerable households.

### Livelihood Strategies

Crop production had been the primary source of income for 62.5% of households in Kamarak during the period between August and November of 2003. Agricultural labor had served as the primary income source for 28% of households. Livestock and natural resource collection had each provided a primary source of income to 5% of households. Although crop production was identified as main income source for the largest proportion of households, livestock likely plays an important role for most because grazing lands are vast around Kamarak and there is no irrigated agriculture.



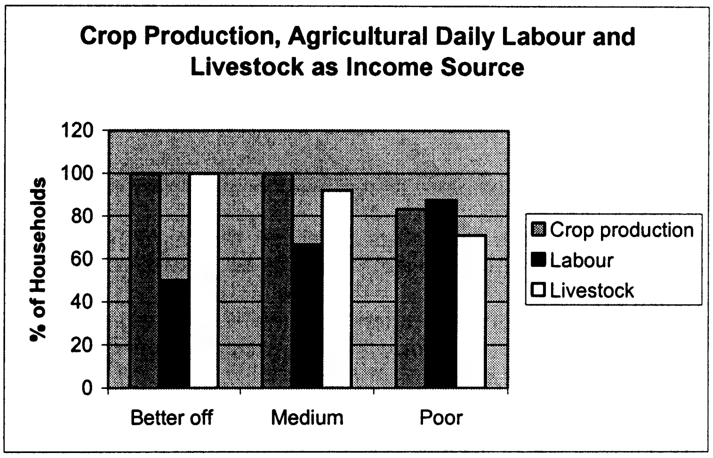

| Household Income Activities | % of households with income earned by men and women from activity cited at left (per men) | % of households with income earned by women from cited activity (per women) |
|---|---|---|
| **Agricultural production** | 90 | 80 |
| **Agricultural labor** | 78 | 70 |
| **Livestock** | 80 | 75.0 |
| ***Gilims* and handicrafts** | 20 | 25.0 |
| **Wool spinning–wage labor** | 40 | 53.0 |
| **Shops** | 8.0 | - |
| **Micro-business** | 3.0 | - |
| **Informal wage labor** | 3.0 | 3 |
| **Rental income** | 15.0 | - |
| **Remittance** | 3 | - |
| **Loans** | 28 | 18 |
| **Gifts/tithes/gleaning** | 28 | 80.0 |
| **Mortgaging land, house, shop** | 3.0 | - |
| **Collecting natural resources** | 50.0 | 35 |

The table to the left captures the percentage of households engaged in each of the different income activities. It is intended to illustrate the relative importance of the different livelihood strategies to the community, including information on the work contributed by women. Data on women's income activities uncover the role of women in current livelihood strategies and provide information that men may have left out or may not have been aware of when commenting on household income.

Agricultural crop production was identified as a source of income for 90% of households and for 80% of women during the previous 4 months. Livestock was identified as the second most important source of income at 80% of households and 75% of women. Agricultural day labor was identified as a source of income for 78% of households and by 70% of women. Collecting natural resources was identified an important activity for 50% of households and for 35% of women. The exchange of gifts, tithes, and gleaning provided income for 80% of women.

### Crop Production and Agricultural Day Labor

Crop production and agricultural labor are important sources of income for the majority of households in Kamarak. The following graph illustrates the relative importance of these activities to the households of Kamarak by wealth group.




The poor had been the most involved and the better-off the least involved in agricultural labor. As discussed in the food security section, wheat and barley are the main source of income-earning crops for Kamarak households. They are used for own-consumption and exchange. Every year a portion of the harvest is reserved to provide seed for the next year's planting and to reduce vulnerability to future shocks. Some households grow sesame, flax, and pulses for food and for sale. Watermelon and melon are also grown for own consumption. Some households collect cumin, asafetida, *ing*, and watermelon seed which they sell in the market.

### Crop Seasonal Calendar

The table below shows the crop calendar for the main food staples in the area. In Kamarak winter wheat is planted from October to January. Spring wheat is planted in March and April. The wheat is then normally harvested in August and September. About 30% of the seeds go into the winter planting and the remaining seeds are planted in the spring. The winter planting for barley occurs in January and spring planting occurs in March and April. Barley is harvested in July. Pulses are planted in April and harvested in August and September. Sweet melons, watermelons, and sesame are planted in April and May and harvested in August and September.

| Crop Calendar | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rainfed wheat | | | | | | | | | | | | |
| Barley | | | | | | | | | | | | |
| Pulses | | | | | | | | | | | | |
| Melon, watermelon and sesame | | | | | | | | | | | | |
| | | Spring planting | | | Harvest | | | Winter planting | | | | |

### Crop Production Livelihood Assets: Land Ownership, Land Use Patterns, and Draft Animals

Land ownership is one of the key livelihood assets for agricultural production. Land ownership patterns are listed in the following table. There are no accurate records available for Kamarak, but according to MAAH sources in Maimana, Kamarak and the villages of Aqbolak, Aizan, and Sussegh have 5,000 *jeribs* of rainfed land among them. In Kamarak, 75% of the households said they owned land. The average amount of land owned differed by wealth group. Better-off households owned an average of 28 *jeribs*, medium-income households owned 7.5 *jeribs*, and poor households owned an average of 7 *jeribs* of land. This shows a clear distinction between the better-off households and the others, indicating that land ownership is a key characteristic of wealth differentiation in the community.

| Land Ownership | All households | Better-off | Medium-income | Poor |
|---|---|---|---|---|
| **Households owning land (%)** | **77.5%** | **100%** | **91.7%** | **66.7%** |
| Average amount of land owned (*jeribs*) | 9.9 | 28 | 7.5 | 7 |
| **Households owning rainfed land (%)** | **75%** | **100%** | **91.6%** | **62.5%** |
| Average amount of rainfed land owned (*jeribs*) | 10 | 27.3 | 7.5 | 7.3 |
| **Households owning irrigated land (%)** | **10%** | **75%** | **0** | **4%** |
| Average amount of irrigated land owned (*jeribs*) | 1.3 | 1 | 0 | 2 |
| **Households owning ≥1 draft oxen (%)** | **45%** | **75%** | **75%** | **25%** |

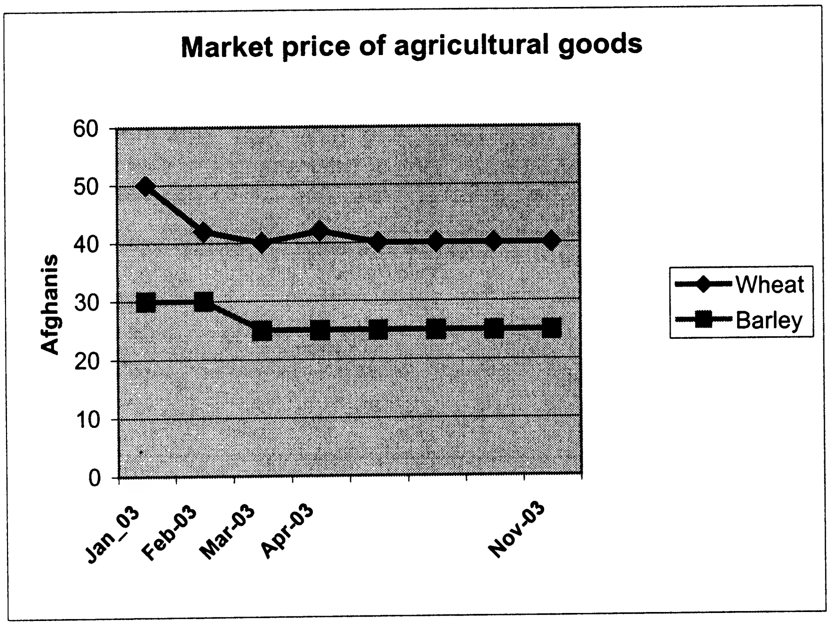
Rainfed crops grow on large tracts of land where draft oxen are used for plowing and hauling. In Kamarak, 45% of households owned at least 1 ox or bull. In the past year some households bought oxen, suggesting that the economic situation in the area was improving. Human capital is also an

important component of agricultural production in Kamarak, with both women and men working on the farms.

**Shocks to Agricultural Yields**

| Crop Destruction | Households with 20% to 50% of crop destroyed | Households with >50 % of crop destroyed | Reasons behind crop destruction |
|---|---|---|---|
| **Rainfed wheat** | 55.6% | 16.7% | smut |
| **Barley** | 0 | 40% | smut |

More than 55% of the households producing wheat had had between 20% and 50% of their crops destroyed and 17% of households had had more than 50% of their wheat destroyed. None of the households reported damage to between 20% and 50% of their barley crop but 40% of the households had had more than 50% of their barley destroyed. This data suggests that crop damage had not been not isolated to a few households. Focus groups noted that there had been concern about crop pests and diseases in the previous 4 months.




**Market Prices of Agricultural Goods**[6]
Between January and March of 2003, the price of wheat dropped to 40 Afs, where it stayed. The price of barley was at 30 Afs in January and February of 2003 while in March it decreased to 25 Afs.

Many farmers focused on poppy production during the 2003 planting season. Considering the low wheat prices and the high return from poppy production, it is likely that households in this area will continue to turn to poppy production as a livelihood source. In order to strengthen their livestock and agricultural assets, people in Kamarak started planting poppy after the drought period. During the past year, almost 60% of households had planted 1*jerib* of poppies, mostly using rainfed land. They obtained yields between 2 to 4 kg of raw opium from each *jerib*. One kilogram of raw opium earned anywhere from 6,000 to 8,000 Afs, depending on when and to whom they had sold it, earning households anywhere between US$240 and US$640. It was clear that households intended to invest in poppy production in the 2004 harvest and mentioned that the new seeds will be able to yield at least 6 kg of raw opium per *jerib*.

**Livestock**
While only 2 households identified livestock and livestock produce as their primary source of income in the 4 months prior to the survey, 80% of households claimed it as an income source and 75% of women claimed it as an income activity during that period. Besides selling the livestock at the market, and using the produce of their animals themselves, the households had sold the *kurk*, *krut*, and *qaraqul* skins in the market. Still, when looking at actual livestock numbers owned by the households, it seems that only a small portion of their income had come from livestock. Livestock ownership was severely affected by the drought and the times of trouble between 1996 and 2002.

| Livestock Ownership | Goats | Sheep | Draft oxen | Cows | Donkeys | Horses |
|---|---|---|---|---|---|---|
| **Households with asset** | 25% | 25% | 45.0% | 15.0% | 82.5% | 15% |
| **Average # owned** | 4.3 | 12.7 | 1.4 | 1.7 | 1.2 | 1.0 |

In Kamarak, 83% of households had owned a donkey during the previous 4 months. Donkeys are extremely

[6] Price data are not available for May 03 till October 03.

important to households in this region for accessing land in the hills, fetching water, and traveling to the market. Besides the 45% of households owning oxen, 25% had owned goats and sheep.

Data suggest that households were recovering from the drought. The following table shows households and their livestock in a normal year, in the drought year of 2002, and in 2003:

| Livestock Ownership Over Time | Goats | Sheep | Draft oxen | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|
| **Households with assets (%) in normal year** | **78%** | **78%** | **75%** | **65%** | **40%** | **88%** |
| Average #owned | 22.3 | 62.3 | 1.1 | 2.1 | 1.9 | 2.4 |
| **Households with assets (%) in 2002 (drought year)** | **28%** | **18%** | **28%** | **1%** | **0%** | **80%** |
| Average n# owned | 4.7 | 9.1 | 1.1 | 1.0 | 0.0 | 1.1 |
| **Households with assets (%) in 2003** | **25%** | **25%** | **45%** | **15%** | **15%** | **83%** |
| Average # owned | 4.3 | 12.7 | 1.4 | 1.7 | 1.0 | 1.2 |

### Livestock Disease

When asked about the disease status of their livestock during the previous 4 months, village leaders said their sheep and goats had been affected by enterotoxaemia, foot and mouth, anthrax, pasterellosis, and sheep pox. They reported that their cattle and oxen had been affected by pasterellosis and foot and mouth. Enterotoxaemia had affected 55% of their sheep and goats, anthrax and foot and mouth had affected 60%, pasterellosis had affected 10%, and sheep pox had affected 70%. Foot and mouth and pasterellosis are both deadly diseases and highly contagious. Enterotoxaemia and anthrax kill within twenty-four hours, usually stopping the disease from spreading. These are all serious diseases that should have killed many animals.

| Livestock Disease | Cattle and oxen (% affected) | Sheep and goats (% affected) |
|---|---|---|
| **Enterotoxaemia** | - | 55% |
| **Anthrax** | - | 60% |
| **Pasterellosis** | 25% | 10% |
| **Foot and mouth** | 100% | 60% |
| **Sheep pox** | -- | 70% |

Households reported that 8 of approximately 250 animals had died of these diseases within the previous 4 months. Livestock owners in Kamarak and the surrounding area had not had their animals vaccinated so their livestock were at risk from disease outbreaks.

### Grazing Land and Access to Water

The people from Kamarak claimed that they had no access to grazing land. As Kamarak is located in a large rainfed area, and not all land is used for agriculture, this is a curious claim. However, it is likely that they have less access to grazing lands than they would like. They explained that Kamarak was located on the border with Darzab district in Jawzjan Province and that grazing lands were largely located in Darzab where they were not allowed to graze their animals. They claimed that they did have access to those grazing lands until 25 years ago when the district and province borders changed.

### Handicrafts, Wool Spinning, and *Gilim* Weaving

More than 50% of households had received a daily wage from embroidering hats, weaving *gilims*, or spinning wool during the previous 4 months. Another 20% of households had received income from producing and selling these types of goods.

Women from poor households spin the wool for a wage received from better-off households. The women from the wealthier households then turn the wool into *gilims*. Some handicrafts had also been made and sold for cash. Women noted that they had received between 256 to 1,467 Afs in the last 4 months for their work. They noted that the availability of wool had not changed during the previous 4 months.

### Gifts, *Zaqat* (Tithes), and Gleaning

Women reported that 80% of households had received income from *zaqat*, gifts, and gleaning. Men reported that 28% of households had received this type of income. It is not clear whether women received the goods, which often come in the form of food, and men were not aware of it, or whether women felt more comfortable reporting these benefits.

**Capacity to Cope: Coping Strategies**

Surveys showed that 37 households said that their income had increased in the 4 months prior to the survey and 16 households said that their total income had increased over a year. Only 4 households thought their total income was less than it was a year ago and 20 said that their total income had remained same. This suggests that households' livelihoods were on a rebound after the drought.

Information collected on coping behaviors that can signal declining livelihood and food security corroborates these findings. The coping strategies listed in this section do not include all the options that households may choose to survive difficulties. Instead, they include only those strategies that are easily measured. The list has been divided into erosive and non-erosive coping strategies to better understand the long-term effects of different choices on a household's future livelihood security. The division is not mutually exclusive. The order in the list does not reflect a continuum of increasing desperation. The non-erosive strategy list does attempt to capture some adaptive strategies such as livelihood adjustments, income diversification, or consumption rationing. Finally, the coping strategies in the lists are to be considered options that, when chosen, signal a worsening situation. However, the listed strategies may also capture the behavior of vulnerable and chronically poor households that have no options and engage in these activities because they have to on a normal basis.

**Non-erosive Coping Strategies**

None of the results from coping behavior indicators signaled concern for the households in Kamarak. During the 4 months prior to the survey 1 household sold a carpet or *gilim* from the house. Excluding that instance, there was no sign of distress asset selling. However, many of these households were without these assets to begin with or had sold them during the drought.

To meet daily expenses, 98% of the households engaged in longer work hours. This proportion is high because the survey took place during the harvest. Similarly, during harvest season it is not unusual to have a family member migrate for seasonal agricultural work and so the 10% of households with a migrant farmer in the family is a reasonable proportion. Still, it seems that households that could be classified as chronically poor based on asset holdings and crop production were the households that engaged in this livelihood strategy. As well, 10% of households claimed that they exist on a diet of stale bread and tea. This suggests the presence of households in the community suffering from chronic poverty.

| **Coping Strategies** | **% (#)** |
|---|---|
| **Non-Erosive Coping Strategies** (last 4 months) | |
| Migrated for labor | 10% (4) |
| Begging | 0 |
| Worked more hours to make daily expenses | 97.5% (39) |
| Borrowed food from relatives to make a meal | 75% (30) |
| Sold carpet/*gilim* from the house | 12.5% (5) |
| Sold house furniture | 0 |
| Sold house part (windows, doors, roofbeams) | 0 |
| Sold bicycle | 0 |
| Sold jewelry | 0 |
| Sold motorcycle/car | 0 |
| Ate stale bread | 10% (4) |
| **Erosive Coping Strategies** | |
| Took a loan (men) | 27.5% (11) |
| Took a loan (women) | 17.5 % (7) |
| Sold or mortgaged land, house or shop | 2.5% |
| Took food on credit from a shop to make a meal | 72.5% |
| Sold sewing machine or loom | |
| Sold handcart | 0 |
| Sold grinder | 0 |
| Sold tractor/combine/other agricultural machinery | 0 |
| Married daughter early | 0 |
| Sent son(s) to military | 0 |
| Sent son(s) to work as indentured labor | 0 |
| Household left community | 1 |

**Erosive and Distress Coping Strategies**

Besides usual coping mechanisms used to meet daily expenses, a small portion of house-holds chose options that are potentially erosive to future livelihood. One household had sold or mortgaged lands; 1 had left the community for unexplained reasons, although 4 households returned. In Kamarak, 73% of surveyed households had bought food on credit from a local shop. Taking food on credit did not necessarily mean a household had no income. Kamarak is isolated and the local shopkeeper supplies villagers with items until their next trip to market. People then pay at set times for the items that they purchased.

During the previous 4 months 28% of households and 18% of women had taken loans. These loans were used to cover health costs, weddings, and daily living expenses. The households that took the loans to cover daily expenses had already had loans and were actually going into further debt.

**Capacity to Cope: Risk and Vulnerability**

The diversity of income sources can be scored using a similar method as used in assessing dietary diversity. Kamarak households had an average income diversity score[1] of 4.45. Poor households in Kamarak had the highest range of income diversity score at 4.71. Better-off households had the lowest income diversity score at 3.75. This may mean that better-off households had more secure income sources and therefore less need for diversity.

| Average Income Diversity Score | |
|---|---|
| **Better-off** | 3.75 |
| **Medium-income** | 4.11 |
| **Poor** | 4.71 |
| **All households** | 4.45 |

**Conclusion: Livelihood Security Support**

Kamarak and the surrounding area were doing better than the other Belcheragh sentinel sites. Kamarak and surrounding villages are isolated and depend fully on rainfed agriculture. However, they had a good harvest and improved yields, despite a reported high level of harvest loss from disease. Income had improved and they were recovering from the recent drought. In the last year, households had benefited from the introduction of poppy production. It is not clear that this is a sustainable income source for these households in the future.

If livestock diseases are as prevalent as claimed, the community needs serious help with vaccination and other animal care methods. Their livestock need better watering facilities and access to grazing lands should be better handled.

Options for supporting socially-acceptable livelihood outcomes are presented in the table below. These options are conceptually arranged so they illustrate how they would support 5 categories of livelihood assets.[2] Before initiating any of these projects the broader political and social context in which these communities work needs to be further explored to understand if the projects are truly possible. Potential spill-over effects, including the constraints imposed by the seasonality of agricultural labor demands, deserve serious consideration.



[1] An income diversity score is simply a count of the number of income sources for each household.

[2] The 5 categories are taken from the DFID Livelihoods Framework model and the format of the table is based on work done by Adam Pain in "Livelihoods Under Stress in Faryab Province" (2001)

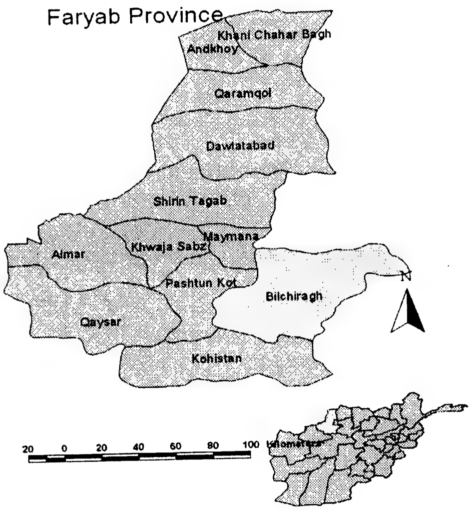
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**OPPORTUNITIES FOR SUPPORTING SOCIALLY-ACCEPTABLE LIVELIHOOD OUTCOMES**

| Capital base | Asset | Means | Group | Livelihood outcome* |
|---|---|---|---|---|
| **Natural** | Wild cumin and asafetida (*hing*) | Facilitate equitable access to collection and sale of wild cumin and *hing* via Ministry of Agriculture and Animal Husbandry (MAAH); collect wild cumin seed and explore ways to cultivate cumin. | all groups | Increased asafetida and wild cumin production and increased incomes for some households |
| | Oil/gas | Explore ways to exploit natural oil and gas reserves in the area | men | Increased opportunities for income and livelihood increases |
| | Grazing land | Support improved access to grazing lands through MAAH. | all groups | Strengthened livestock assets and supported public assets |
| | Water | Support the safe collection of rainwater for household use | all groups | Increased access to safe water |
| | Aqbolak spring | Improve the yield of the spring in Aqbolak; explore the possibility to divert water flow from Aqbolak spring to Kamarak through traditional water systems or a pipeline | all groups | Increased access to safe water |
| | Kamarak spring | Improve yield of spring in Kamarak. | all groups | Increased access to safe water |
| **Physical** | Livestock | Set up clinics/veterinary services through MAAH in the area. Treat village livestock. | livestock owners | Strengthened livestock owners economic. Increased livestock numbers |
| | *Dand* creation | Strengthen existing water *dands* in natural hollows in mountains | livestock owners | Water availability during summer for livestock |
| | Water storage | Construct a water storage system for the small amount of spring water from Kamarak spring | all groups | Increased access to safe drinking water |
| | | Support the construction of safe rainwater catchment and storage systems | all groups | Increased access to safe drinking water |
| | School | Build school for boys and girls | children/all groups | Increased children education. |
| | Community/household toilets | Promote the building of toilets | all groups | Increased hygiene and reduced morbidity |
| | Road | Improve the road between Kamarak and the main road in the valley to make access by car possible. | all groups | Increased access to services and markets |
| **Financial** | Credit | Provide credit to men and women for small scale investments | men and women | Increased handicraft, agriculture and livestock |
| | | Provide credit for community projects | men and women | Improved community services/assets |
| **Human** | Human health | Implement a measles campaign; train community health educators; create health posts; implement health education with a focus on hygiene and clean water | all groups | Reduced risk of mortality and morbidity |
| | | Implement nutrition education – promote a balanced diet | all groups | Improved nutrition status of children and women |
| | Literacy course | Set up literacy courses through literacy department of Ministry of Education | women and older girls | Improved child care; increased access to information |
| | Qualified teachers for primary education | Support the identification and training of primary school teachers and bring the education activities under MoE supervision | children | Improved access to primary education |
| | Handicraft | Support sustainable/viable income generating projects for women. | women | Increased work facilities, economic and women value in the society |

*This column includes the livelihood outcome or, at least, the initial step that will link the activity to increased/improved livelihood outcomes.

| Faryab Surveillance Unit | **National Surveillance System (NSS)**<br>**Transitional Islamic State of Afghanistan**<br>**Ministry of Rural Rehabilitation and Development, Ministry of Agriculture and Animal Husbandry and Ministry of Health** | **Belcheragh District**<br>Tashqala Sentinel Site<br>**Fall 2003** |
|---|---|---|




**SUMMARY FINDINGS: TASHQALA**

**Food Security**
- 25% of the households thought that they had not had enough food during the previous 4 months
- 35% worried weekly about where their food will come from
- 2003 irrigated wheat yields were half those of 2002
- Barley yield also decreased in 2003
- Poor families had a low dietary diversity

**Risk to Lives**
- The mortality of children <5 was above emergency thresholds (3.08 deaths/10000/day)
- Morbidity patterns for children <5 were troubling
- Measles immunization coverage was only 31% in an area where measles is the leading cause of death
- Malnutrition levels of children <5 were high
- 22.25% of women had MUACs <23 cm and 5.6 had MUACs <21cm
- The nearest health care is 2 hours away by car
- Population figures show there were 47.8% women and 52.2% men

**Livelihood Security**
- 6 households had left the community
- 95% of households thought their total income had increased in the previous 4 months and 37.5% thought their income had increased since the previous year
- Households had benefited from the introduction of alternative cash crops.

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**What is the NSS?**
The National Surveillance System monitors trends in key indicators to predict early signs of change and deterioration in food security, nutrition, and livelihoods. In conjunction with complementary data collection systems, the NSS provides relevant data for prioritizing limited resources and designing programs.

**Methodology**
The NSS is based on a sentinel site system, in which provincial level ministries follow a rotating cohort of households over time. Sites are selected so that they mirror the majority of the communities with respect to agro-ecological features, economic activities, available services, and people in a given area known as a livelihood or agro-ecological zone. Information from the sentinel site may not be representative of every village in the zone because of the diversity of livelihoods in Afghanistan. However, it is likely that the data from one sentinel site can signal concern for other villages in the same zone (See Annex I for detailed information on methodology).


Save the Children.
**The Faryab Provincial Surveillance Unit is supported by Save the Children USA and funded by DFID**

## REPORT OBJECTIVES

This document has several objectives. First, it intends to report information coming out of the National Surveillance System standardized methodology. Therefore, this report provides:

- current information on household food security status in Belcheragh district,
- information on risk to lives and nutritional risk to individuals in Belcheragh district,
- information on the current household livelihood security situation in Belcheragh district, specifically looking at current shocks to livelihoods and the ability of households to adapt to these shocks, and
- better understanding of the vulnerability and risk of communities and households in Belcheragh in relation to issues of food security, mortality, health, and nutrition.

Secondly, this report provides baseline information on indicators that are unique to a local area but had never before been explored in the depth needed for use in guiding programs and policies. These indicators reveal:

- characteristics of household wealth in Belcheragh district;
- the presence of malnutrition, morbidity, and mortality in rural communities in Belcheragh district; and
- types of livelihood strategies employed in Belcheragh district.

Finally, the report aims to suggest how government and other agencies can use this new understanding about livelihoods, vulnerability, and risk for designing and prioritizing program interventions and effective policies.

## BELCHERAGH DISTRICT LIVELIHOOD ZONES

Belcheragh is an elongated mountainous district in southeastern Faryab Province. Gorziwan District to the south used to be part of a much larger Belcheragh District. The current district follows the Belcheragh River running from east to west through a wide valley. The river originates in springs to the east and flows towards Belcheragh center where it is joined by the larger Gorziwan River originating in the Haft Tagab valley of Gorziwan District. Together the rivers run toward Maimana and provide water all the way to Andkhoy in the far north of the province.

Belcheragh district encompasses 10,050 *jeribs* of irrigated land and 184,000 *jeribs* of rainfed land. The name Belcheragh comes from Dari for shovel or *bel*, and lamp or *cheragh*. The people from Belcheragh were known for working their lands at night using a shovel and a lamp.

Villages in Belcheragh District sit at altitudes that range from 1,085 meters in the west to 1,700 meters in the east, while villages in the northern mountainous part are above 2,000 meters. Belcheragh has an estimated population of 70,384 according to World Food Programme statistics from 2001. During the spring melt, Belcheragh District may be cut off for a few days from the rest of the province because of high water levels in the main rivers.

Belcheragh can be divided into two ethnic halves, with Uzbeks dominating in the west and Tajiks dominating in the east. At different times in the past, Belcheragh governors have affiliated with the Hisb-i Islami, Jamiat-i Islami, and Jumbesh political parties. The current Belcheragh governor has links with the Jumbesh party.

The people in Belcheragh cultivate crops in the summer, fall, and spring and 90% of the households surveyed produced income through crops, primarily wheat, barley, potatoes, rice, flax, and sesame. Wood from poplar trees also serves as an important cash crop. Wild cumin, mushrooms, the fennel-like asafetida, and *ing,* a medicinal root for stomach ailments that is highly valued and exported to India, are collected in certain seasons to provide additional cash. Livestock products provide an important variation to the diet. Some households living near the river also have access to fish.

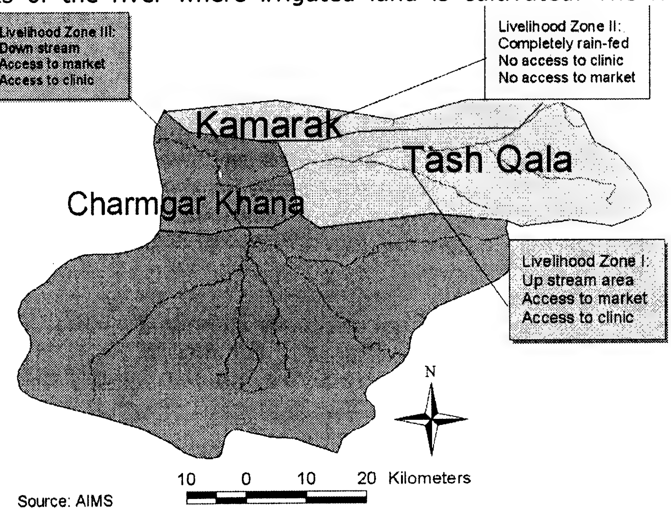
Belcheragh can be divided into three distinct livelihood zones. A sentinel site was chosen from each area and this report includes information on the sentinel site from Zone 2, Tashqala (see map).

### Livelihood Zone 1: Rainfed Land (Kamarak)

Zone 1 covers the northern part of Belcheragh. These villages are found on high flat rainfed plains, where the main crop is wheat. Livestock plays an important role. Access to markets or services is possible only by donkey or on foot and they are a 5 hour journey away. Access to water is limited, with some small springs and rain water collection during the winter in *dands*, hand-dug pools. Only a few villages have schools for boys and girls supported by the Ministry of Education.

**Livelihood Zone 2: Grazing Land, Rainfed Land and Irrigated Land (Tashqala)**

This zone is located upstream in the eastern part of Belcheragh. Livestock and agriculture are important sources of income. A large part of the land is located on rainfed hills, while the majority of people live in the valley on both banks of the river where irrigated land is cultivated. The river depends on water from springs located in Qurchi that may run dry during the summer months. The largest market for people from Tashqala is Belcheragh center which is 2 hours away by car. As the people from Tashqala and surrounding villages are mainly from the Tajik ethnic group, they often use Sar-i Pul market, which is 3-4 hours away by car, or Darzab market in Jawzjan, which is a 4 hour journey by donkey. Both boys and girls attend school in most villages in this zone, although only a few villages have school buildings and most classes take place in a tent.



Source: AIMS

**Livelihood Zone 3: Mixed Irrigated and Rainfed Land (Charemgary)**

Zone 3 covers the downstream western part of the Belcheragh District. Most villages in this zone are located near the riverbanks. The zone is downstream from the confluence of the Belcheragh and Gorziwan rivers. Water in this zone is available in large quantities all year round and irrigated agriculture is an important activity. In addition, the water is often used as a source of power for either electricity or mills and as a source of fish. Most villages in this zone are also located on the main road between Maimana and Belcheragh center and have good access to markets and health services. In most villages, boys and girls attend school, although there are no school buildings and classes take place in tents.

## TASHQALA GENERAL INFORMATION

**Background Geography**

Tashqala is located in the southeastern part of Belcheragh District. It is less than a kilometer from a northern tributary of the Belcheragh River, near the entrance of a long valley with steep slopes. Tashqala sits at an altitude of 1,190 meters and the harsh winters can last half the year. The main market of Belcheragh Center is 2 hours away from Tashqala by vehicle. Smaller markets are located in Qurchi, an hour by vehicle to the east, and Kawliyan, an hour by vehicle to the west on the way to Belcheragh. *Tash* means stone in Turkish and *qala* means fort in Dari.

The people of Tashqala identify themselves as mixed Tajik and Uzbek, with a majority Tajik. They tend to speak both Dari and Uzbeki. The village currently has 7 mosques and 700 households. The average size of households in Tashqala is 5.6 members, lower than the Afghan average. Based on other survey work and current Afghanistan Central Statistical Office census data, the average household size in Afghanistan is 6.1. Better-off households in Kamarak generally have more members than medium-income and poor households. Better-off households tend to remain in joint families while poor households tend to split into nuclear families as soon as sons are married. In addition, this village has 47.8% women and 52.2% men. The low number of women in this village may indicate a higher mortality rate than normal as out-migration of men is not common in Tashqala.

| Average Household Size | |
|---|---|
| **Better-off** | **8.5** |
| **Medium-income** | **5.3** |
| **Poor** | **5.3** |
| **All households** | **5.6** |

Information for this report was collected in two surveys. The first survey was a baseline surveillance data collection in November 2002 and the second one was a November 2003 survey using the standardized national food security and nutrition surveillance questionnaires. Most of the information presented here was collected during the November 2003 work using male and female focus group interviews and 40 household interviews. The households interviewed in 2003 were the same 40 households interviewed in 2002.

## Administrative System and Political Affiliation

In the past 23 years there have been major conflicts among the Hisb-i Islami, Jamiat-i Islami, and Jumbesh parties, including in Belcheragh. The Taliban arrived in Tashqala in 1996, disarmed everyone, arrested people, and took some away to be jailed outside the area. With the departure of the Taliban, Jumbesh took official control. However, tensions remain between the Jumbesh-supported Uzbek governor in Belcheragh Center and the Tajik commander based in Qurchi. Tashqala turns to the nearby Tajik commander for support. Despite this tendency to affiliate with the commander, Tashqala provides soldiers to the governor in Belcheragh.

The *kariador* or village leader and the *shura,* group of decision-making elders, handle village-level decisions. They have official administrative links to the district center of Belcheragh, but the Qurchi commander is their preferred alternative for any further dispute resolution. People pay taxes based on harvests of wheat and collection of asafetida, a pungent resin produced from a type of fennel and used as a spice in Indian cooking. These are official payments to the governor in Belcheragh center.

## Social Institutions

Although this survey did not measure community social structures directly, it asked about certain behaviors that reflect the existence of community social networks and safety nets. Like many villages in the region, Tashqala has an active community mobilization process that organizes community work projects.

In the previous 4 months, 45% of Tashqala households had taken out loans to cover the costs of weddings, asset purchases, or daily living expenses. The relationships between lenders and borrowers is not entirely clear, but there does seem to be an active system of lending which likely provides a safety net for some households during certain years or seasons. Additionally, households said they kept the Islamic practice of *zaqat* with better-off households giving a certain portion of their income to poor households. Of the 40 households, 7 had received *zaqat* as an income source. The exchange of food or other products is widespread in Tashqala, indicated by the 70% of households borrowing food to make a meal. All these support systems are signs of strong social networks.

## Community Facilities

There is a primary school for boys and girls in Tashqala. The school is officially administered by the Ministry of Education and teaching takes place in a community building. Children also study in a *madrassa* located near the mosque in the center of the village. The village has donated a piece of land for a public school building; however no building had been built as yet. All teachers had received 10 liters of oil from the World Food Programme as an addition to their salary and children enrolled in schools had received 100 grams of fortified biscuits on a daily basis during the previous 4 months. As a further incentive, girls had received 4 liters of oil per month.

There are no health facilities in Tashqala and people must travel to a NGO-supported comprehensive health center (CHC) in Belcheragh Center. Health issues will be discussed in detail in the Risk to Lives section of this report.

## Local Perceptions of Socioeconomic Status/Wealth

The community divided households into three different wealth groups, or socioeconomic categories. The table below lists the typical characteristics of each wealth group as identified by men and women. These socioeconomic groups will be used throughout the report to understand the relative differences in the food security, risk to lives, and livelihood security of different households. Better-off households made up 10%, medium-income households made up 30%, and poor households made up 60% of the total. Information on children's perception of wealth was also collected for better-off and poor households.

In general, a better-off family has assets such as land, livestock, a house, new clothing, and enough to eat. They kill animals during *Eid Qurban* and give one-third of the meat to poor households, one-third to less well off members of their extended family, and they keep one-third. A better-off family employs others to work for it and it gives *zaqat*. Children also identified owning a car as a criterion for a better-off family. A poor family has a small area of land or no land at all. They do not have enough to eat and they wear old or secondhand clothing.

Children told a story about a poor household: Once upon a time there was a poor family that only had one donkey. They were so poor that they had to make the decision to sell this donkey they depended on. When market day came, the donkey refused to do what the man said and did not want to move. The men got upset and started to hit the donkey to make him move. The donkey screamed and

brayed and started to defecate. When the man looked closely he saw coins in the dung! So the family kept the donkey and he became a source of money for it.

| Assets and Activities | Wealth Group | | |
|---|---|---|---|
| | Better-off (10%) | Medium-income (30%) | Poor (60%) |
| **Male group perception** | | | |
| Land | 50 *jeribs* | 10 - 20 *jeribs* | 0-5 *jeribs* |
| Sheep/goats | 60 | 10-20 | 0-2 |
| Milk cow | 1 | 0-1 | 0 |
| Oxen | 2 | 0-1 | 0 |
| Horse | 1 | 0 | 0 |
| Donkey | 3 | 2 | 0-1 |
| House | has | has | has |
| Garden | has | none | none |
| Business | has | none | none |
| Labor | People work for him | does his own work | Works for others |
| *Gilim* | has | none | none |
| Wedding expenses | 8000 USD | 6000USD | 3000 USD |
| *Zaqat* | gives *zaqat* | gives *zaqat* | Receives *zaqat* |
| **Female group perception** | | | |
| Land | 40 *jeribs* | 10-15 *jeribs* | 0 |
| Sheep/goats | 100 | 10 | none |
| Milk cow | 1-2 | 0-1 | 0 |
| Oxen | 2 | 1 | 0 |
| Donkey | 3 | 1 | 0-1 |
| House | has | has | has |
| Labor | people work for him | does his own work | works for others |
| *Gilim* | has | has | none |
| *Zaqat* | gives *zaqat* | gives *zaqat* | receives *zaqat* |
| Wedding expenses | 8,000 USD | 6,000 USD | 3,000 USD |

* Pots are used for both cooking and carrying water

## TASHQALA FOOD SECURITY

Certain indicators reveal information about access, availability, and quality components of food security. Monitoring these indicators can track changes in food security at a sentinel site, identify households' current food security status, and provide information on the nature of any food insecurity.

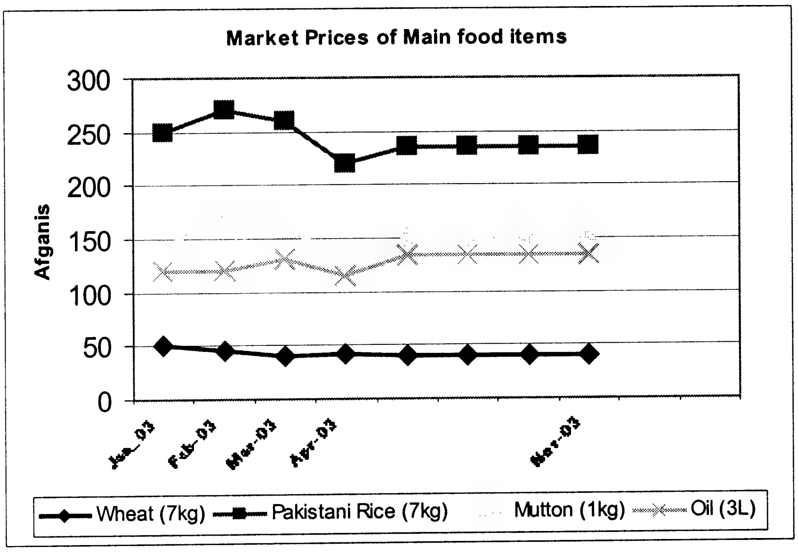
### Market Access

There are two smaller markets the people of Tashqala often use. The Qurchi market is located one hour by vehicle to the east and Kawliyan is located about one hour by vehicle to the west on the way to Belcheragh. It costs about 100 Afghanis (Afs) for a return trip to either Qurchi or Kawliyan.

| Market location | Time to Reach Market | | Round trip cost | Market accessible in winter and spring? |
|---|---|---|---|---|
| | Vehicle | Foot | | |
| Kawliyan | 1 hour | 2 hours | 100 Afs | yes |
| Qurchi | 1 hour | 2 hours | 100 Afs | yes |
| Darzab | 3 hours | 5-6 hours | 400 AFs | yes |

People from Tashqala also travel north to the Darzab market in Jawzjan, which takes 6 hours by foot or donkey and 3 hours by vehicle. Food prices tend to be cheaper and livestock products sell for more in Darzab. It costs about 400 Afs for a return trip to Darzab. Darzab is not accessible during the winter months. Occasionally villagers also go to Sar-i Pul market which takes 4 hours by vehicle over a good road. The official market for Tashqala is Belcheragh center, from where Qurchi and Kawliyan markets obtain supplies. The people of Tashqala trade wheat, livestock, and other crops for food and non-food items. Transactions in the market place usually take place in cash. Before the drought they also sold *gilims* and carpets.

Most families send someone to the market at least once a week all year. Women rarely go to the markets. There are some shops in the village where people can obtain basic food items.



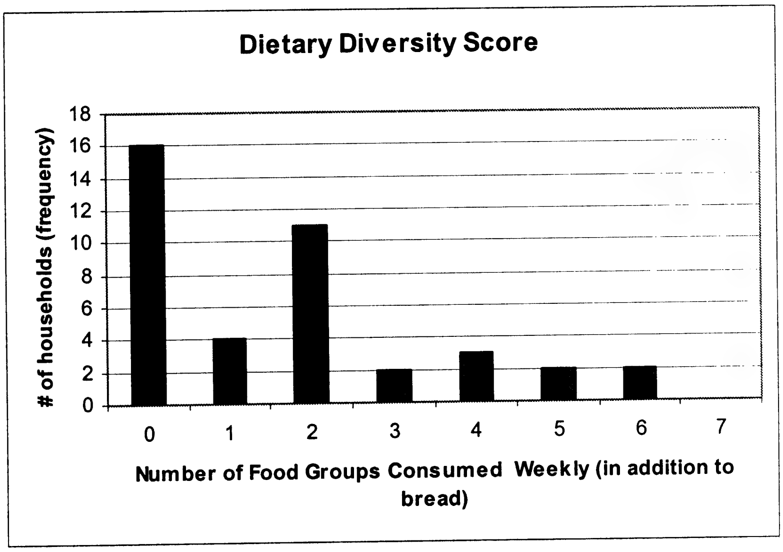

**Market Prices**

Belcheragh market prices were monitored because the smaller markets used by Tashqala get their supplies from there. Data were collected during early 2003, and then starting again during late 2003. The price of wheat remained fairly stable just below 50 Afs per *seer.* Rice and mutton prices rose in late winter, then fell in spring. Oil prices varied between 120 and 135 Afs for 3 liters.

**Dietary Diversity and Dietary Quality**

Dietary diversity is a primary component of food security. Previous studies have shown that dietary habits in Afghanistan are not very diverse and consequently people are at risk of micronutrient deficiency disorders and related diseases. It is not entirely clear how dietary preferences and available food types interact to determine household dietary patterns. To better understand the quality of diets in the previous 4 months, surveyors asked about the frequency of eating foods from different food groups.

These results were used to create a dietary diversity score to capture dietary quality and to monitor it over time. The diversity score is calculated by attributing a score of 1.0 to each food group that was eaten at least once weekly. Thus, households with a higher diversity score have a more diverse diet. Repeated surveys throughout the country indicate that most households consume cereals on a daily basis and thus cereals were not included in the diet diversity score. Earlier baseline surveys in the area suggest that most households consumed oil/fat and so this was not included in the score either. The dietary diversity score for Tashqala was 1.65. Although the majority of households scored 0.0, there were households that ate from 2, 4, 5, and 6 additional food groups in a week. Apparently, a variety of foods was available to those who had the tastes and resources.




The following graph shows the average frequency of food group consumption during the previous 4 months (excluding Ramadan and festivals) by wealth group. It reinforces the conclusion that most households in Tashqala do not eat from a variety of food groups. The poor households in Tashqala consumed a very limited diet, while the medium-income and better-off did not show any wide divisions in food group consumption patterns. Better-off families ate meat 2 times a week, medium-income ate meat 1 or 2 times a week, and the poor ate meat only 2 times a month. Milk products were eaten 3 times a month by better-off and medium-income households but poor households only ate them once a month. The medium-income households had eggs the most, almost 3 times a month. The better-off and poor ate eggs twice a month or more. They all ate pulses once a month or less. They all ate leafy green vegetables a little more than they ate pulses, with the medium-income households eating leafy greens more than once a month. Potatoes, squash, carrots, and onions were eaten 2 times a week by better-off and medium-income households and less than once a week by

poor families. They ate eat fruit 2 or 3 times a month with the medium-income families eating fruit every week or two.

**Average Frequency of Food Group Consumption by Wealth Group**

| Wealth Group | Meat | Milk, yogurt, *krut* | Eggs | Pulses | Leafy green vegetables | Other vegetables | Fruits | |
|---|---|---|---|---|---|---|---|---|
| **Better-off** | 5.0 | 3.5 | 2.5 | 2.0 | 2.0 | 5.0 | 3.0 | 1 = Never eat<br>2 ≤Once a month<br>3 = 2 to 3 times a month<br>4 = Once weekly<br>5 = Twice weekly<br>6 = 3 to 5 times weekly<br>7 = Always eat |
| **Medium-income** | 4.4 | 3.5 | 2.8 | 1.9 | 2.3 | 5.1 | 3.3 | |
| **Poor** | 2.8 | 2.4 | 2.2 | 1.4 | 1.8 | 3.5 | 2.9 | |
| **All households** | 3.5 | 2.8 | 2.4 | 1.6 | 2.0 | 4.2 | 3.0 | |

**Crop Production**
Rural and semi-rural areas in Afghanistan are still highly dependent on subsistence agriculture for their own consumption, so monitoring annual crop yields and amounts planted can help predict the food security situation of households. In Tashqala, 78% of households were engaged in agricultural production, with 28% of those households depending on it the main source of income.

**2003 Harvest**
In 2003, 7 households planted irrigated wheat, an increase over the 4 households planting it in 2002. The average yield each household harvested decreased from 54 *seers* in 2002 to 24 *seers* in 2003. Rainfed wheat yields decreased only a little, with average yields of 187 *seers* for 24 households in 2002 and 170 *seers* for 34 households in 2003. Average barley yields decreased severely for poor and stayed the same for medium-income households between 2002 and 2003, when fewer households planted it. For medium-income households, the average rainfed wheat yields of 2003 more than compensated for the disappointment of irrigated wheat. Poor households saw a decrease by nearly 25% in 2003 and the better-off households' average wheat yields fell by more than half. In 2003, one household planted potatoes and harvested 20 *seers*.

| **2002 and 2003 Harvest** *(1 seer = 7 kg)* | **Irrigated wheat** *(seers)* | | **Rainfed wheat** *(seers)* | | **Barley** *(seers)* | | **Potatoes** *(seers)* | |
|---|---|---|---|---|---|---|---|---|
| | **2002** | **2003** | **2002** | **2003** | **2002** | **2003** | **2002** | **2003** |
| Better-off | 50 | 33 | 395 | 185 | 120 | 0 | 0 | 0 |
| Medium-income | 130 | 20 | 162 | 269 | 91 | 90 | 0 | 20 |
| Poor | 18 | 15 | 153 | 117 | 109 | 25 | 0 | 0 |
| **All households** | **54** | **24** | **187** | **170** | **100** | **68** | **0** | **20** |
| ***# of households with harvest*** | 4 | 7 | 24 | 34 | 10 | 6 | 0 | 1 |

On average, households had a better harvest in 2002 than in 2003, especially the harvest of irrigated wheat. Apparently there was less irrigation water available in 2003. The water supply is controlled in the Qurchi area and a larger proportion of the water was used by Qurchi farmers in 2003 than in 2002.

**Food Security Perception**
Household perception of food security is an important indicator of current food security status. In Tashqala, 3 of the households considered the food situation to be worse than 4 months earlier. Only 2 households considered the food situation to be worse than a year earlier. But 25% thought they had not had enough to eat in the previous 4 months and 35% had worried about once a week where their food would come from. None of the households expected the situation to worsen in the next 4 winter months, although 68% households answered they did not know if it would be worse or better.

| **Perception of Food Security Indicators** | **% of 40 households** |
|---|---|
| Consider food situation to be **worse** in comparison to 4 months ago | 8 % |
| Consider food situation to be **worse** than 1 year ago | 5 % |
| Considered food situation to not be sufficient at time of survey | 25 % |
| Worried where their food was coming at the time of survey | 35 % |
| Expect the food situation to be **worse** in the next 4 months | 0 |

**CONCLUSION: CURRENT FOOD SECURITY STATUS**
Tashqala households had had a good harvest in 2002 that was not generally matched in 2003. Household perceptions of their food security status indicate an improvement over the year before,

although 25% said they had not had enough food in the previous 4 months and 35% still worried every week about where their food would come from. Diet diversity was a problem among the poor households of Tashqala. Diversity is related to households' own crop production, access to water, and market access. The medium-income and poor households had small households and some had no grown wage-earning men.

## TASHQALA RISK TO LIVES

Indicators monitoring the risk to lives at sentinel sites can signal regions where individuals are more vulnerable and reveal underlying causes of increased risk. These indicators help gain better understanding of relationships involving nutrition, sanitation, morbidity, and mortality.

### Mortality Indicators

The survey found that the crude mortality rate (CMR) for Tashqala was 0.86 deaths/10,000 people/day. This rate was above the normal developing country level of 0.5 deaths/10,000 people/day but just below the emergency threshold rate of 1.0 death/10,000 people/day. The mortality rate for children <5 was 3.08 deaths/10,000 people/day. This rate was three times the normal developing country rate of 1.0 deaths/10,000 people/ day. It was also above the emergency threshold rate of 2.0 deaths/10,000 people/day. Tashqala villagers were not concerned about this death rate during the previous 4 months.

| Risks to Lives Indicators | % |
|---|---|
| **Mortality indicators**[1] | |
| Crude mortality (deaths/10,000/day) | 0.86 |
| Under 5 mortality (deaths/10,000/day) | 3.08 |
| Births in last 4 months attended by a skilled birth attendant (n=1) | 0.0 |
| **Morbidity indicators** | |
| Children < 5 years with watery diarrhea (two week period) (n=24) | 25% |
| Children < 5 years with bloody diarrhea (two week period) (n=24) | 2.8% |
| Children < 5 with ARI (two week period) (n=24) | 36.1% |
| Children between 6 and 59 months with measles vaccination (n=24) | 30.6% |
| **Child anthropometric status (WFH % of median and MUAC)** | |
| Children with severe and moderate acute malnutrition, and edema (n=24) | 5.6%[2] |
| Children between 6 months and 59 months with edema (n=24) | 0.0 |
| Children between 6 and 59 months with severe acute malnutrition (n=24) | 2.8% |
| Children between 6 and 59 months with moderate acute malnutrition (n=24) | 2.8% |
| Children between 1 year and 59 months with a MUAC under 13.5 cm (n=16) | 12.9% |
| Children between 1 year and 59 months with a MUAC under 12 cm (n=16) | 3.2% |
| **Adult women anthropometric status** | |
| Reproductive age women (15-49 years) with a MUAC < 23.0 cm (n=33) | 22.2% |
| Reproductive age women (15-49 years) with a MUAC < 21.0 cm (n=33) | 5.6% |
| **Micronutrient deficiencies** | |
| Households with iodized salt (only includes households with salt) (n=40) | 0.0 |

Of all deaths among women of childbearing age in Afghanistan, 48% can be attributed to complications during pregnancy or childbirth. Additionally, newborns only have a 25% chance of survival if their mothers die during childbirth and most die of malnutrition within the first month.[3] Because of this high rate of maternal and child mortality in Afghanistan, this study also looked at the number of children who had a skilled birth attendant present at delivery as a proxy for risk to lives of both the mothers giving birth and the new infants. In Tashqala, there had been one birth during the previous 4 months but without a skilled birth attendant.[4]

### Morbidity Indicators

The morbidity indicators included in the surveillance system are associated with a risk of mortality and are the primary causes of death for children <5 in Afghanistan. The cases of watery diarrhea among children <5 in Tashqala reached 25%, a concerning proportion. As well, 2.8% of the children <5 had

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[1] The mortality rate was calculated by collecting information on village deaths from the community *mullah*. This method of calculation is being piloted for the Afghanistan context and may be misleading when comparing the figures to standardized WHO mortality rate cut-offs. Thus, the mortality rate should be interpreted with caution until the pilot finding results are finalized.

[2] Malnutrition level assessments are reported based on a small cohort sample and should only be interpreted over time in order to understand shifts in nutritional status. Because the sample was randomly selected, these shifts are meant to reflect shifts in both the larger sentinel site population as well as the livelihood zone population.

[3] MoH Afghanistan/UNICEF/CDC, 2002

[4] Because this question was only asked to female caregivers who had birthed a child in the last four months, it did not include stillbirths or children who had died during the last four months, so there actually may have been more births in the site in the last four months.

bloody diarrhea. In Tashqala almost all families have sanitation facilities, but access to water is a concern. The diarrhea problem might relate to lack of education about proper hygiene practices.

The survey found that 36.1% of children <5 had suffered from acute respiratory infections. Past surveys in this area note a higher incidence of ARI during the winter months and low incidence during the summer months. Since this survey took place at the beginning of winter, the cooling weather may have been partially responsible for this higher figure. Poor hygiene practices and the lack of adequate health and sanitation facilities also enhance children's susceptibility to ARI.

According to official statistics, measles vaccination coverage in Afghanistan is 95% and the Ministry of Health (MoH) reports the Belcheragh coverage is 96%. However, in Tashqala the measles vaccination coverage was 30.6% among children <5. This is worrying, especially as previous surveys have reported that the primary cause of death among children in this area is measles.

**Children's Nutritional Status**
Using weight for height (WFH) percentage of the median, Tashqala had a global acute malnutrition (GAM) prevalence of 5.6% for children between 6 and 59 months. There was no edema, 2.8 % had severe acute malnutrition, and another 2.8% had moderate acute malnutrition.

Children are classified as moderately malnourished by middle upper arm circumference (MUAC) measurements <12.0 cm and are potentially at risk of death. In Tashqala 3.2% of the children in the survey were moderately malnourished and 12.9% were at risk of being malnourished with MUACs <13.5cm. These figures, along with the WFH, suggest that malnutrition for children <5 should be a cause of concern for the village.

**Adult Women's Nutritional Status**
Low MUACs in women of childbearing age have been associated with high maternal and child mortality making it an important indicator for increased risks to adult women's mortality. The survey found that more than 22% of women had MUACs <23.0 cm and 5.6% of them had MUACs <21.0 cm. Additional information on cut-off standards needs to be collected to better interpret the implications of women's MUACs <23.0 cm. Regardless, this proportion of Tashqala women with low MUACs should be a concern for the village.

The low average household size of 5.3 for the medium-income and poor households and the high crude mortality rate suggest that Tashqala villagers' lives are at risk. The low proportion of women to men in Tashqala suggests that the women, and therefore their children, are the ones dying. This may be linked to maternal mortality. Early marriage is common in Tashqala and young girls tend to have early pregnancies, increasing the risk of maternal deaths.

**Micronutrient Deficiencies: Iodine**
Presence of iodized salt in the house is a proxy for use of it and for iodine deficiency. Iodine deficiency is linked to the following disorders:
- In all individuals: goiter and loss of energy
- In pregnant women: miscarriages, stillbirths, and mentally retarded children
- In children: impaired mental and physical development, mental retardation, physical deformities, and cretinism.

No households had iodized salt in Tashqala. Area markets only carry locally mined block salt.

**Health Facilities**
The following table lists the health services that are available to the people in Tashqala. Traditional birth attendants are the only health service within the community. The next closest health care is an NGO-supported comprehensive health center (CHC) and a private doctor, both located in Belcheragh Center. Belcheragh Center is 5 hours away by foot or donkey and is 2 hours away by car, which costs 350 Afs one way per person. The private doctor charges a fee of 50 Afs for a consultation and prescribes medicines out of a shop in the market. The CHC was supported by an international NGO at the time of the survey but there were indications that the international NGO would stop supporting it. The CHC has a registration fee, but provided free consultations and free available essential medicines. Two doctors are present at the CHC at all times. The MoH has drawn up a basic health plan for Afghanistan's population and it recommends the establishment of a basic health center in nearby Qurchi and the establishment of health posts in each village. There was a MoH facility in Qurchi 10 years ago but there were no staff members at the time of the survey and the building was falling into disrepair.

Another alternative for the people of Belcheragh requires a trip to Maimana, the capital of Faryab Province. It takes a full day to reach Maimana by foot or donkey and at least 5 hours by car, which costs around 800 Afs one way per person. Sometimes villagers will travel to Shiberghan via Darzab for health services. Sar-i Pul also has hospital facilities similar to the other two provincial capitals. However, as distances are long, people tend to go to these locations only in extreme situations. Mainly better-off households can afford to travel over distances for health care and only in emergencies. Most people in Tashqala would like to have better access to health facilities. Apparently, the usage of the CHC in Belcheragh Center had increased since the international NGO started to support the facility.

| Health Services and Facilities | Facility / service provider location | Time to reach facility / provider | Round trip cost | Facility access | Facility accessible in winter and spring? |
|---|---|---|---|---|---|
| **Health Posts** | None | -- | -- | -- | -- |
| **Basic Health Center** | - | -- | -- | -- | -- |
| **Comprehensive Health Center** | Belcheragh | 2 hours | 350 Afs | everybody | yes |
| **Hospital** | Maimana, Sar-i Pul town, Shiberghan | 6 hours | | everybody | yes |
| **Traditional healers / birth attendants** | Tashqala | <1 hour | 0 | everybody | yes |
| **Skilled birth attendant** | Belcheragh | 2 hours | 350 Afs | women | yes |
| **Private doctor** | Belcheragh | 2 hours | 350 Afs | everybody | yes |

**Water Sources for Household Use**

The people of Tashqala fetch water for household use from the river and from two open wells. The river is one kilometer away from the village, about a 10 minute walk. The river is only 2 meters wide near Tashqala. During dry seasons there may be no water flowing through the channel at all because users upstream deplete it. During the drought, the river flow ceased several times.

| Drinking Water Source (in order of use) | Time taken for water collection | Quality Δ since last year | Quantity Δ since last year |
|---|---|---|---|
| **River** | <1 hour | same | same |
| **Open well** | <1 hour | same | same |

The men of most households are responsible for hauling water from the river by donkey, using 15 liter tanks. The women of some households haul water in containers they balance on their heads. The two wells with water for the village are located next to the mosques. The people reported the quantity and quality of the river water in 2003 was the same as in 2002.

There are many springs in this area because the water table is high. Apparently, well construction is difficult because of the mix of sandy and rocky conditions in Tashqala. The people of Tashqala recognize the problem with accessing clean drinking water, especially during the summer months.

**Sanitation Facilities**

Most houses have toilets in Tashqala. These are traditional pit latrines and vault latrines. Most families have vault latrines because digging a pit is difficult. A few households don't have toilets and they use open fields, which are also used by many children. The waste from these fields, and use of human waste as fertilizer, allows disease to spread easily in the absence of appropriate hygiene practices which require adequate water.

**CONCLUSION: RISKS TO LIVES**

During the previous 4 months, crude mortality rates in Tashqala were above normal developing country rates and the rates for children <5 were above emergency threshold levels. As would be expected, morbidity patterns for children <5 were high. The low measles immunization coverage rate is particularly disturbing because in Belcheragh District claims are made that vaccination rates are high. The main cause of death among children is measles. Some children and women of childbearing age suffered malnutrition and significant proportions of both were at risk.

The low average household size of 5.3 for the medium-income and poor households suggests that that mortality is a problem in the area. Population figures suggest that women are at higher risk than men since there were 53% men and 47% women. Young girls tend to have early pregnancies, increasing the risk for maternal deaths.

Options for reducing the mortality rates in Tashqala include health and nutrition education (particularly about hygiene practices) safe adequate water, and dietary diversity. Community water projects could improve access to safe water. Options for reducing maternal mortality in Tashqala include education about family spacing, birth planning, delaying marriage/pregnancy, and safe birth practices.

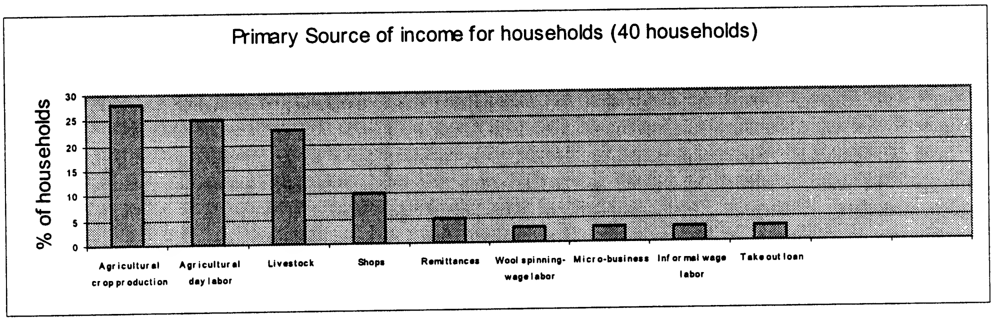
Distance to health care will continue to be a problem for the people of Tashqala and the surrounding area. Until local people are trained in basic health care as community health workers or doctors start to visit outlying areas on a rotation system, health care will not improve in the near future. It is essential that traditional birth attendants are trained in safe birth practices.

## TASHQALA LIVELIHOOD SECURITY

Livelihood security indicators focus on the livelihood strategies of households within a community. They reveal livelihood assets related to particular income sources and expose current shocks to livelihood sources as well as households' abilities to cope with these shocks. Analysis of these indicators could provide agencies with sufficient information to decide whether there is a need to respond to a current shock. Finally, examination of coping strategies can identify characteristics of particularly vulnerable households.

### Livelihood Strategies

In Tashqala, 28% of households had produced crops as their primary source of income during the previous 4 months. Agricultural labor had provided primary income to 25% and livestock had been the main support of 23%. Shops had been the primary support for 10% and 5% of households had depended on remittances as their primary income source. Primary income sources of wool spinning, micro-business, and informal wage labor had each supported a single household.




| Household Income Activities as reported by men and women | % of households with income earned by men and women from activity cited at left (per men) | % of households with income earned by women from cited activity (per women) |
|---|---|---|
| Agricultural production | 78 | 60 |
| Trees and vineyards | - | 18 |
| Agricultural labor | 63 | 58 |
| Livestock | 78 | 73 |
| *Gilims* and handicrafts | 3 | 15 |
| Wool spinning–wage labor | 45 | 40 |
| Shops | 20 | 3 |
| Micro-business | 3 | - |
| Informal wage labor | 3 | - |
| Rental income | 10 | - |
| Remittance | 8 | 3 |
| Loans | 28 | 18 |
| Begging | 3 | 3 |
| Gifts/tithes/gleaning | 5 | 18 |
| Collection and sale of natural resources | 3 | 13 |

The table to the left shows the proportions of households engaged in each of the different income activities. The second column shows women's stated participation in activities. This table is intended to illustrate the relative importance of the different livelihood strategies to the community and which income activities involved women. Data on women's income activities uncover the role of women in current livelihood strategies and provide information that men may have left out or not have been aware of when commenting on household income.

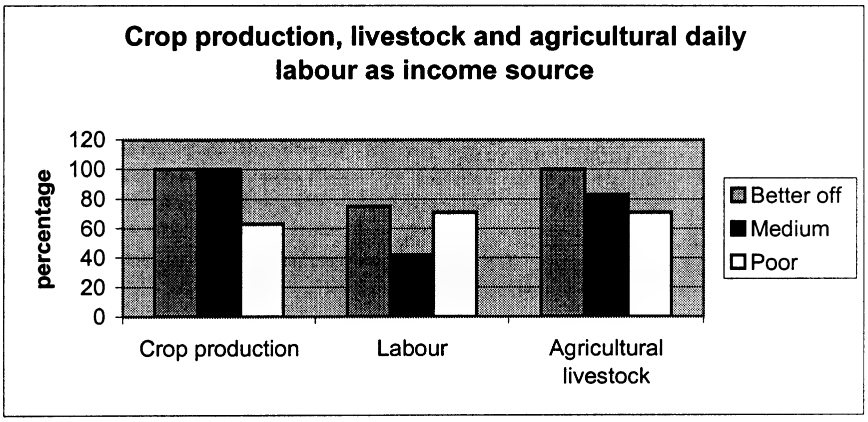
Crop production, agricultural labor, and livestock were all identified as important income activities for both women and men during the previous 4 months. Making hats, weaving *gilims*, tending fruit trees, and collecting natural resources were activities that women dominated. Wage labor from wool spinning had been another source of income identified by both men

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and women. Shops provided incomes to 20% of households. Loans, gifts, gleaning, and *zaqat* were also sources of income.

**Crop Production, Agricultural Day Labor, and Livestock**

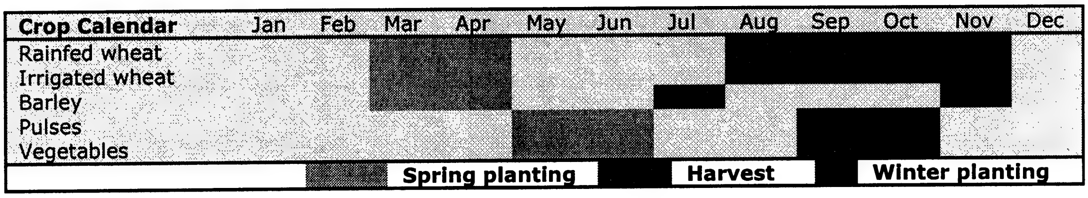
Crop production, agricultural labor, and livestock are important sources of income for the majority of households in Tashqala. The graph below illustrates the percent of households involved in these three activities. All medium-income and better-off households had raised crops as well as 65% of poor households. Agricultural labor had been an important source of income for the better-off and the poor, while the medium-income households had been least involved in this activity. All better-off, 83% of medium-income, and more than 70% of poor households had raised livestock as an income source.




Barley and wheat are the main sources of income-earning crops for Tashqala households. These crops are consumed by the households and exchanged. Every year a portion of the harvest is reserved to provide seed for the next year's planting and to reduce vulnerability to future shocks. Some Tashqala households also grow pulses and vegetables for their own use with a small portion sold in nearby markets.

**Crop Seasonal Calendar**

The following table shows the crop calendar for the main food staples in the area. Tashqala has a long and harsh winter which affects the timing of the planting and the harvest. The winter wheat is planted in October and November. Spring wheat is planted in March and April. August and September see the wheat harvest. The winter planting takes 30% of the seed and the rest is planted in spring. Barley has a very similar planting calendar, except that winter planting starts one month later than wheat. Only 10% of the barley is planted in the winter, the rest is planted in the spring. Barley harvest is in July. Pulses and vegetables are planted in May and June and are harvested in September and October. Sweet melons and watermelons are planted in June and harvested in September and October.




**Crop Production Livelihood Assets: Land Ownership, Land Use Patterns, and Draft Animals**

Land ownership is the key livelihood asset for agricultural production. Land ownership patterns are listed in the following table. Tashqala claims to own a total 5,170 *jeribs* of rainfed and grazing land. Some land records are kept in Maimana, some are granted and kept by village leaders, and some people have no ownership records. However, according to MAAH sources in Maimana, Tashqala has 250 *jeribs* of irrigated land as well as 25,000 *jeribs* of rainfed and grazing land, and it receives water for irrigation 6 days in a row every 15-20 days. The water is then divided among the different areas of Tashqala. In Tashqala, all better-off and medium-income households owned both irrigated and rainfed land. On average, medium-income households owned more land, both irrigated and rainfed, than better-off households. There was a clear difference between the poor and the other households, with 58.8% of the poor households owning land. Land ownership only distinguishes the poor from the better-off and medium-income households since the medium-income owned the most land.

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| Land Ownership | All households | Better-off | Medium-income | Poor |
|---|---|---|---|---|
| **Households owning land (%)** | **75%** | **100%** | **100%** | **58.8%** |
| Average amount of land owned (*jeribs*) | 21.3 | 24.3 | 26.8 | 15.7 |
| **Households owning irrigated land (%)** | **67.5%** | **100%** | **100%** | **45.8%** |
| Average amount of irrigated land owned (*jeribs*) | 2.0 | 1.0 | 3.0 | 1.2 |
| **Households owning rainfed land (%)** | **67.5%** | **100%** | **100%** | **45.8%** |
| Average amount of rainfed land owned (*jeribs*) | 21.7 | 23.3 | 23.8 | 18.8 |
| **Households owning ≥1 draft oxen (%)** | **60%** | **100%** | **100%** | **33.3%** |

Draft oxen are extremely important for crop production. In Tashqala, 100% of the better-off and medium-income households and 33.3% of poor households owned at least one ox.

Human capital is also an important component of agricultural production in Tashqala, where both men and women work as agricultural laborers as well as on their own land. The limited number of family members in each household suggests that in this village family livelihoods are particularly vulnerable to the loss of able-bodied workers.

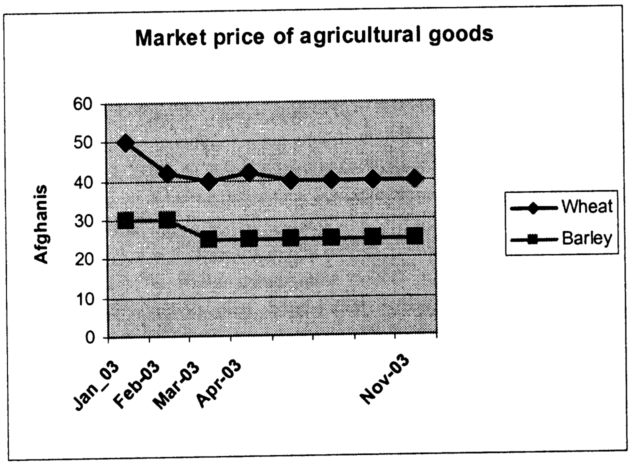
**Shocks to Agricultural Yields**

Of the households growing rainfed wheat 42% had lost between 20% and 50 % of their crops to smut and insects. Half the households growing barley had lost more than 50% to smut. Small proportions of irrigated wheat and potato crops had suffered from lack of water, attributable to Qurchi's use of most irrigation water and lack of rain.

| Crop Destruction | Households with between 20% and 50% of crop destroyed (%) | Households with >50 % of crop destroyed (%) | Cause of crop destruction |
|---|---|---|---|
| **Rainfed wheat** | 42% | 0 | smut; other insects |
| **Irrigated wheat** | 0 | 0 | lack of rain and irrigation |
| **Barley** | 0 | 50% | smut |
| **Potatoes** | 0 | 0 | lack of irrigation |

**Market Prices of Agricultural Goods**[5]

In early 2003, the price of wheat fell from 50 Afs to 40 Afs per *seer*. It stayed near 40 Afs through spring. In November the price was also 40 Afs. The price of barley dropped from 30 Afs to 25 Afs per *seer* in early spring of 2003. It remained at that price for another month and was at the same price in November.




In group discussions farmers revealed they had produced poppies during the 2003 planting season. With the relatively low wheat prices and the high return from poppy production, households in this area will likely continue producing poppies as a livelihood source. People in Tashqala started planting poppies after the drought, thinking the money could go straight into rebuilding livestock herds and agricultural capacity. In the previous year, nearly half the households had planted one *jerib* of poppies. They were able to harvest up to 5 kg of raw opium from this one *jerib*. One kilogram of raw opium earned anywhere from 7,000 to 8,000 Afs, depending on when and to whom it was sold, earning households anywhere between $140 to $800 US. Households clearly intended to invest in poppy production for the 2004 harvest.

**Livestock**

Livestock is one of the main income sources for households in Tashqala, contributing to the incomes of 78%. It is the primary income source for 23% of the households. Both men and women claimed it is an income source during the previous 4 months. Besides selling the livestock at the market and using the produce of their animals for their own consumption, the households had sold the animals' *kurk*, *krut*, and *qaraqul* skins in the market.

[5] Price data are not available for May 2003 till October 2003.

| Livestock Ownership | Goats | Sheep | Draft oxen | Bulls | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|---|
| **Households with asset** (%) | 35.0% | 42.5% | 60.0% | 2.5% | 22.5% | 35.0% | 82.5% |
| **Average # owned** | 17.4 | 42.4 | 1.8 | 2.0 | 1.6 | 1.1 | 2.3 |

Donkeys are im-portant for hauling water and goods and 82% of households owned at least one. In Tashqala, 35% of the households owned goats and 43% owned sheep. A significant number of Tashqala households, 35%, also owned a horse. Horses are best for travel over long distances, but more importantly they are a status symbol and are used in the game of bushkazi. Nearly a quarter of households owned milk cows.

Households were recovering from the drought as shown in the following table which lists households and their livestock in a normal year, in the drought year of 2002, and in 2003. Only the numbers of donkeys and horses had reached or surpassed pre-drought levels and, while the number of households with cows had gone down, the number of cows themselves had increased in the last year.

| Livestock Ownership Over Time | Goats | Sheep | Draft oxen | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|
| **Households with asset (%) in normal year** | **58%** | **63%** | **68%** | **65%** | **38%** | **78%** |
| Average number owned | 17.2 | 46 | 2.4 | 1.5 | 1.3 | 2.7 |
| **Households with asset (%) in 2002 (drought year)** | **30%** | **33%** | **33%** | **25%** | **15%** | **73%** |
| Average number owned | 5.8 | 16.2 | 1.5 | 1.0 | 1.0 | 1.7 |
| **Households with asset (%) in 2003** | **35%** | **43%** | **60%** | **23%** | **35%** | **83%** |
| Average number owned | 17.4 | 42.4 | 1.8 | 1.6 | 1.1 | 2.3 |

### Livestock disease

When asked about the current disease status of their livestock, village leaders said 10% of the sheep and goats had been affected by pasterellosis and all had foot and mouth disease. They said 100% of their cattle had foot and mouth and 20% had black leg. These are all deadly diseases. It is highly unlikely that all their cattle, sheep, and goats had foot and mouth, but some may have as foot and mouth had been a problem in this area in the past. Livestock owners in Tashqala had not had their animals vaccinated, so their livestock were at risk of disease outbreaks.

| Livestock Disease | **Cattle and oxen** (% affected) | **Sheep and goats** (% affected) |
|---|---|---|
| **Pasterellosis** | -- | 10% |
| **Black leg** | 20% | -- |
| **Foot and mouth** | 100% | 100% |

### Grazing land and Access to Water

According to village leaders, access to grazing land in Tashqala remained constant in the previous 4 months. Irrigation water was reduced, which affects quantities available to animals.

### Trees and Vineyards

Tashqala women tend the fruit and nut trees and the vineyards. They reported 18% of households were involved. Most of the income from these sources comes during June and July which was before the survey period. In 2003, apricot, peach, apple, almond, plum, mulberry, and walnut trees were grown. The nuts and fruits are very useful to enhance villagers' dietary diversity and as additional income if sold. A severe late frost had destroyed more than 50% of the buds, especially affecting the peach and the walnut trees. Poplar trees were grown for wood.

| Tree Ownership | % of house-holds | Average # of trees owned | Range of ownership | % of households with 20%-50% of crops destroyed | % of households with >50 % of crops destroyed |
|---|---|---|---|---|---|
| **Apricots** | 35 | 8 | 1-20 | -- | 7 |
| **Peaches** | 5 | 2 | 1-2 | -- | 50 |
| **Apples** | 20 | 3 | 1-10 | -- | 13 |
| **Almonds** | 18 | 10 | 2-20 | -- | 14 |
| **Plums** | 15 | 8 | 4-15 | 17 | 17 |
| **Mulberry** | 25 | 3 | 1-5 | -- | 10 |
| **Walnut** | 8 | 2 | 1-2 | -- | 33 |
| **Poplar** | 45 | 81 | 1-500 | -- | -- |

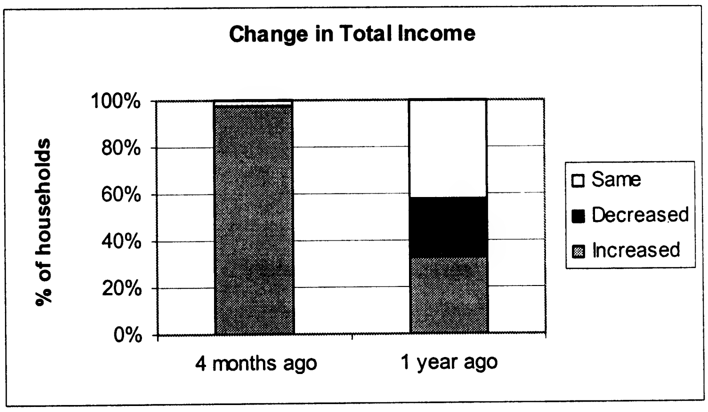
### Handicrafts, Wool Spinning, and *Gilim* Weaving

In Tashqala, 45% of households had received a daily wage from spinning wool or weaving *gilims*. As well, 15% had received income from producing and directly selling these goods.

Women from poor households tend to spin the wool for a wage and better-off households then weave the wool into *gilims*. Some embroidered hats were also made and sold for cash. Women noted that they had received between 130 Afs to 1,200 Afs in the previous 4 months for their work. They said the availability of wool had not changed in the previous four months.

### Gleaning, Gifts, and *Zaqat*

Men reported that 5% of households had received income from gleaning, gifts, or *zaqat*. Women reported that 18% of households had received this type of income. Both proportions were much lower than other sentinel sites. This could indicate that either the social support network was failing or that the question was not clear. The discrepancy between the two numbers may be attributed to women's actually having received the gifts, which come in the form of food, or to women being more comfortable reporting gifts.




### Capacity to Cope: Coping Strategies

The following graph illustrates that 95% of the households thought their income had increased in the previous 4 months and 37.5% of the households though it had increased over the previous year. Another 22.5% thought that their total income had decreased over a year ago and 40% said that their total income had remained the same. This suggests that some households were on a rebound after the drought, but that a high number of families were still struggling to make ends meet. The optimism about the previous 4 months may be linked to poppy income rather than other crop production.

Information collected on coping behaviors that can signal declining livelihood and food security corroborates these findings. The coping strategies listed in this section do not include all the options that households may choose to survive difficulties. Instead, they include only those strategies that are easily measured. The list has been divided into erosive and non-erosive coping strategies to better understand the long-term effects of different choices on a household's future livelihood security. The division is not mutually exclusive. The order in the list does not reflect a continuum of increasing desperation. The non-erosive strategy list does attempt to capture some adaptive strategies such as livelihood adjustments, income diversification, or consumption rationing. Finally, the coping strategies in the lists are to be considered options that, when chosen, signal a worsening situation. However, the listed strategies may also capture the behavior of vulnerable and chronically poor households that have no options and engage in these activities because they have to on a normal basis.

### Non-erosive coping strategies

Results from coping behavior indicators signaled a concern for a few households in Tashqala. During the previous 4 months there were no real signs of distress asset selling of non-productive assets. However many of these households were without these assets to begin with or had sold them during the drought. In order to meet daily expenses, 95% of the households engaged in longer hours of work to meet daily expenses. These numbers are high because crop production and agricultural labor are primary sources of income for households in Tashqala and the villagers had just finished their harvest. During the previous 4 months, 5% of households had a family member migrate for labor which may be a concern, although many of these households regularly migrate for seasonal agricultural labor. Only 3% of households identified begging as an income source, however a high 20% indicated that their food consumption consisted mainly of tea and bread. It seems that households that can be classified as chronically poor based on asset holdings and crop production were the households that engaged in livelihood strategies of reduced food intake and begging. This confirms the presence of households in the community suffering from chronic poverty.

| Coping Strategies | % (#) |
|---|---|
| **Non-Erosive Coping Strategies** (last 4 months) | |
| Migrated for labor | 5% (2) |
| Begging | 3% (1) |
| Worked more hours to meet daily expenses | 95% (38) |
| Borrowed food from relatives to make a meal | 70% (28) |
| Sold carpet / *gilims* from the house | 0 |
| Sold house furniture | 0 |
| Sold house part (windows, doors, roof beams) | 0 |
| Sold bicycle | 0 |
| Sold jewelry | 0 |
| Sold motorcycle / car | 0 |
| Ate stale bread | 20% (8) |
| **Erosive Coping Strategies** | |
| Household took out loan - men | 45 % (18) |
| Household took out loan - women | 27 % (11) |
| Household sold or mortgaged land, house or shop | 0 |
| Household took food on credit from a shop | 68% (27) |
| Sent sons to work as indentured labor | 0 |
| Sold sewing machine | 0 |
| Sold loom | 0 |
| Sold handcart | 0 |
| Sold grinder | 0 |
| Sold tractors/combine/agricultural machinery | 0 |
| Married daughter early | 0 |
| Sent son to military | 0 |
| Number of households that left community | 6 |

**Erosive and Distress Coping Strategies**

Besides the usual coping mechanisms used to meet daily expenses, a small proportion of households chose options that are potentially erosive to future livelihood. During the previous 4 months, 68% of households had taken food on credit from a local shop and 6 households had left the community. The reasons for migrations were not clear.

Loans were mentioned by 45% of the men and 27% of the women. These loans had been used to cover health costs, donkey purchases, and daily living expenses. The number of men and women taking out loans was higher than in other parts of Belcheragh and may indicate an erosive coping strategy. Those households that took the loans to cover daily expenses had already had loans and were actually going into further debt.

**Capacity to Cope: Risk and Vulnerability**

| Average Income Diversity Score | |
|---|---|
| **Better-off** | 3.75 |
| **Medium-income** | 3.42 |
| **Poor** | 3.46 |
| **All households** | 3.48 |

Households in the Tashqala area have several sources of income, as crop production, livestock, and agricultural labor are all primary sources of income. The diversity of income sources can be scored using a similar method as used in assessing dietary diversity. Tashqala had an average income diversity score of 3.48. It is interesting, but also of concern that the better-off households in Tashqala had the highest diversity score with 3.75. In the other Belcheragh sentinel sites, poor households tended to have the highest diversity score. It may be that for Tashqala income diversity was a characteristic of a successful coping strategy for the better-off. Poorer households may not be able to engage in this strategy as access to the different income sources is difficult.

**Conclusion: Livelihood Security Support**

Recovery from the drought started in 2002 in Tashqala, but 2003 saw some setbacks. Crop production was reduced but efforts to restock herds and flocks were succeeding. Several coping strategies during the 4 months prior to the survey can be identified as erosive and the income diversity score was highest for the better-off, perhaps indicating that access to diverse income sources was no longer an option for the poorer households in Tashqala. Households had monetarily benefited from the introduction of poppy production. Still, it is not clear that this is a sustainable income source for these households. Poppy production exposes them to the same covariate risks surrounding access to irrigation water and rainfall variations that can affect both crop production and livestock recovery.

Options for supporting socially-acceptable livelihood outcomes are presented in the table below. These options are conceptually arranged so they illustrate how they would support five categories of livelihood assets.[6] Before initiating any of these projects the broader political and social context in which these communities work needs to be further explored to understand if the projects are truly possible. Potential spill-over effects, including the constraints imposed by the seasonality of agricultural labor demands, deserve serious consideration.

[6] The 5 categories are taken from the DFID Livelihoods Framework model and the format of the table is based on work done by Adam Pain, "Livelihoods Under Stress in Faryab Province" (2001).

**OPPORTUNITIES FOR SOCIALLY ACCEPTABLE LIVELIHOODS**

| Capital base | Asset | Means | Group | Livelihood outcome* |
|---|---|---|---|---|
| **Natural** | Wild cumin and asafetida | Facilitate equitable access to collection and sale of wild cumin and *hing* (MAAH);collect wild cumin seed and explore ways to cultivate cumin. | all groups | Increased asafetida and wild cumin production and increased resources |
| | Oil/gas | Explore ways to exploit natural oil and gas reserves in the area | | |
| | Grazing land | Support existing grazing lands, and protect grazing lands from crop production | all groups | Strengthened livestock assets and supported public assets. |
| | Water | Build rainwater catchments for household use | | |
| | | Improve wells through hand pumps; build additional wells in the village | | |
| | | Make an arrangement with Qurchi regarding water rights for irrigation purposes | | |
| **Physical** | Livestock | Set up clinics/veterinary services through Ministry of Agriculture and Animal Husbandry (MAAH) in the area; treat village livestock | livestock owners | Strengthened livestock owners economic. Increased livestock numbers. |
| | *Dand* creation | Strengthen existing *dands* in natural hollows in mountains | livestock owners | Water availability during summer for livestock |
| | School | Build school for boys and girls through Ministry of Education | children/all groups | Increased children's education. |
| | Community/household toilets | Promote the building of toilets | all groups | Increased hygiene and reduced morbidity |
| **Financial** | Credit | Provide credit to men and women for small scale investment | men and women | Increased handicraft, agriculture and livestock. |
| **Human** | Human Health | Implement a measles campaign<br>Train community health educators<br>Create health posts<br>Implement health education with a focus on hygiene and clean water | all groups | Reduced risk of mortality and morbidity |
| | | Implement nutrition education – promote a balanced diet | all groups | Improved nutrition status of of children and women. |

*This column includes the livelihood outcome or at least the initial step that will link the activity to increased livelihood outcomes

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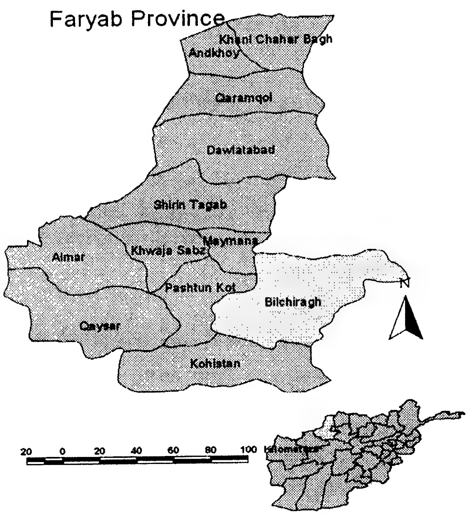
Faryab Surveillance Unit

# National Surveillance System (NSS)
## Transitional Islamic State of Afghanistan

**Ministry of Rural Rehabilitation and Development, Ministry of Agriculture and Animal Husbandry and Ministry of Health**

**Belcheragh District**
Charemgary Sentinel Site

**Fall 2003**




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## SUMMARY FINDINGS: CHAREMGARY

### Food Security
- Only 5% of households considered their food situation to be worse than four months or a year previously
- The number of households planting rainfed wheat doubled while the number of households planting irrigated wheat stayed the same
- The sesame and irrigated wheat harvests doubled
- In 2003, 4 households started planting potatoes which used to be a staple crop before the drought
- Families in Charemgary had a high dietary diversity

### Risk to Lives
- At 2.41 deaths/10000/day, the mortality rate of children <5 was above emergency thresholds
- 60% of children had been immunized against measles, a higher percentage than other sentinel sites but much lower than government figures
- Morbidity patterns for children<5 were high (ARI: 28.8%, watery diarrhea: 36.5%)
- The closest health care is 20 minutes by car or 1 hour on foot

### Livelihood Security
- Diseases had affected livestock in the Charemgary area in the 4 months before the survey
- 90% of the households thought that their total income had increased in the previous 4 months
- Recovery from the drought was ongoing
- Households appeared to have benefited from the introduction of alternative cash crops (poppies), using irrigated land

**What is the NSS?**
The National Surveillance System monitors trends in key indicators to predict early signs of change and deterioration in food security, nutrition, and livelihoods. In conjunction with complementary data collection systems, the NSS provides relevant data for prioritizing limited resources and designing programs.

**Methodology**
The NSS is based on a sentinel site system, in which provincial level ministries follow a rotating cohort of households over time. Sites are selected so that they mirror the majority of the communities with respect to agro-ecological features, economic activities, available services, and people in a given area known as a livelihood or agro-ecological zone. Information from the sentinel site may not be representative of every village in the zone because of the diversity of livelihoods in Afghanistan. However, it is likely that the data from one sentinel site can signal concern for other villages in the same zone (See Annex I for detailed information on methodology).


Save the Children.
**The Faryab Provincial Surveillance Unit is supported by Save the Children USA and funded by DFID**

## REPORT OBJECTIVES

This document has several objectives. First, it intends to report information coming out of the National Surveillance System standardized methodology. Therefore, this report provides:

- current information on household food security status in Belcheragh district,
- information on risk to lives and nutritional risk to individuals in Belcheragh district,
- information on the current household livelihood security situation in Belcheragh district, specifically looking at current shocks to livelihoods and the ability of households to adapt to these shocks, and
- better understanding of the vulnerability and risk of communities and households in Belcheragh in relation to issues of food security, mortality, health, and nutrition.

Secondly, this report provides baseline information on indicators that are unique to a local area but had never before been explored in the depth needed for use in guiding programs and policies. These indicators reveal:

- characteristics of household wealth in Belcheragh district;
- the presence of malnutrition, morbidity, and mortality in rural communities in Belcheragh district; and
- types of livelihood strategies employed in Belcheragh district.

Finally, the report aims to suggest how government and other agencies can use this new understanding about livelihoods, vulnerability, and risk for designing and prioritizing program interventions and effective policies.

## BELCHERAGH DISTRICT LIVELIHOOD ZONES

Belcheragh is an elongated mountainous district in southeastern Faryab Province. Gorziwan District to the south used to be part of a much larger Belcheragh District. The current district follows the Belcheragh River running from east to west through a wide valley. The river originates in springs to the east and flows towards Belcheragh center where it is joined by the larger Gorziwan River originating in the Haft Tagab valley of Gorziwan District. Together the rivers run towards Maimana and provide water all the way to Andkhoy in the far north of the province.

Belcheragh District encompasses 10,050 *jeribs* of irrigated land and 184,000 *jeribs* of rainfed land. The name Belcheragh comes from Dari for shovel or *bel*, and lamp or *cheragh*. The people from Belcheragh were known for working their lands at night using a shovel and a lamp.

Villages in Belcheragh District sit at altitudes that range from 1,085 meters in the west to 1,700 meters in the east, while villages in the northern mountainous part are above 2,000 meters. Belcheragh has an estimated population of 70,384, according to World Food Programme statistics from 2001. During the spring melt, Belcheragh District may be cut off for a few days from the rest of the province because of high water levels in the main rivers.

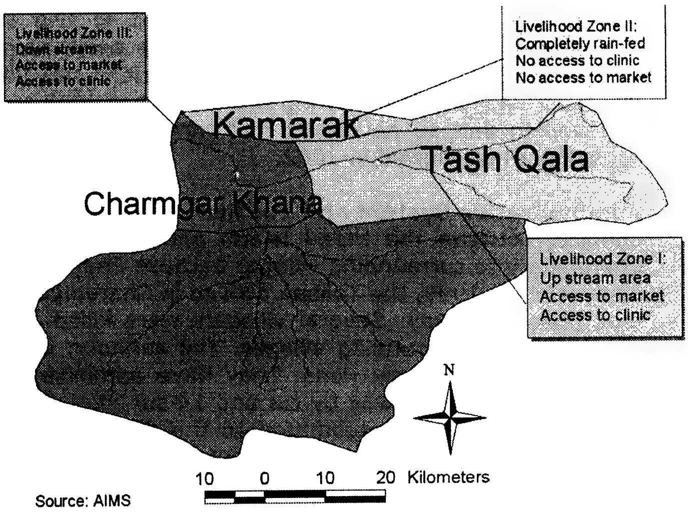
Belcheragh can be divided into two ethnic halves, with Uzbeks dominating in the west and Tajiks dominating in the east. At different times in the past, Belcheragh governors have affiliated with the Hisb-i Islami, Jamiat-i Islami, and Jumbesh political parties. The current Belcheragh governor has links with the Jumbesh party.

The people in Belcheragh cultivate crops in the summer, fall, and spring and 90% of the households surveyed produced income through crops, primarily wheat, barley, potatoes, rice, flax, and sesame. Wood from poplar trees also serves as an important cash crop. Wild cumin, mushrooms, the fennel-like asafetida, and *ing,* a medicinal root for stomach ailments that is highly valued and exported to India, are collected in certain seasons to provide additional cash. Livestock products provide an important variation to the diet. Some households living near the river also have access to fish.

Belcheragh can be divided into three distinct livelihood zones. A sentinel site was chosen from each area and this report includes information on the sentinel site from zone 3, Charemgary (see map).

**Zone 1: Rainfed Land (Kamarak)**

Livelihoods Zone 1 covers the northern part of Belcheragh. These villages are found on high flat rainfed plains, where the main crop is wheat. Livestock plays an important role. Access to markets or services is possible only by donkey or on foot and they are 5 hours away. Access to water is limited with some small springs and rain water collection during the winter in *dands*, hand dug pools. Only a few villages have schools for boys and girls supported by the Ministry.




**Zone 2: Grazing Land, Rainfed Land and Irrigated Land (Tashqala)**

This zone is located upstream in the eastern part of Belcheragh. Livestock and agriculture are important sources of income. A large part of the land is located on rainfed hills, while the majority of people live in the valley on both banks of the river where irrigated land is cultivated. The river depends on water from springs located in Qurchi that may run dry during the summer months. The largest market for Tashqala is Belcheragh center which is 2 hours by car. As the people from Tashqala and surrounding villages are mainly from the Tajik ethnic group, they often use Sar-i Pul market, which is 3-4 hours by car, or Darzab market in Jawzjan, which is 4 hours by donkey. Both boys and girls attend school in most villages in this zone, although only a few villages have school buildings and most classes take place in a tent.

**Zone 3: Mixed Irrigated and Rainfed Land (Charemgary)**

Zone 3 covers the downstream western part of the Belcheragh district. Most villages in this zone are located near the riverbanks. The zone is downstream from the confluence of the Belcheragh and Gorziwan rivers. Water in this zone is available in large quantities all year round and irrigated agriculture is an important activity. In addition the water is often used as a source of power for either electricity or mills and as a source of fish. Most villages in this zone are also located on the main road between Maimana and Belcheragh center and have good access to markets and health services. In most villages, boys and girls attend school, although there are no school buildings and classes take place in tents.

## CHAREMGARY GENERAL INFORMATION

**Background Geography**

Charemgary is the sentinel site representing villages scattered along both banks of the river in the west of Belcheragh District. The main market is Belcheragh center which is 20 minutes away by car and an hour by donkey or by foot. At 1,085 meters above sea level, Charemgary is cold in winter and hot in summer. Charemgary sits at the head of a valley, so it has less irrigated land available than most of the other villages in the zone.

Charemgary comes from the Dari words for leather and warm, *charm* and *gari*. The people of Charemgary were known for making shoes with leather that had been cooked to make it soft. The shoemaking workshops closed down about 20 years ago during a period of civil unrest.

| Average Household Size | |
|---|---|
| **Better-off** | 7.3 |
| **Medium-income** | 6.8 |
| **Poor** | 6.5 |
| **All households** | 6.7 |

According to village elders, the first settlers came to Charemgary many centuries ago. Stories are handed down from generation to generation about events that took place in Charemgary's history. The people identify themselves as Uzbek and speak Uzbeki. The village currently has 400 households and 5 mosques. The average household size of 6.7 in Charemgary is larger than the national average. The Afghanistan Central Statistical Office calculates the average household size at 6.1 members. Charemgary follows the national trend of wealthier households supporting more members than medium-income and poor households. Better-off households tend to remain in joint families while poor households tend to split into nuclear families as soon as sons are married. At the time of data collection, Charemgary had 49.1% women and 50.9% men.

Information for this report was collected in two surveys. The first survey collected baseline surveillance data in November 2002. The most recent survey, in November of 2003, used the standardized national food security and nutrition surveillance methods. Most of the information used in this report was collected during the November 2003 survey through focus group interviews with men and women and 40 household interviews. The households interviewed in 2003 were the same 40 households interviewed in 2002.

**Administrative System and Political Affiliation**
Conflicts between the Hisb-i Islami and Jamiat-i Islami parties in the 1980s drove people from Charemgary to surrounding villages because Charemgary was often a target due to its location on the main road. In 1999, the Taliban arrived in Charemgary. They disarmed the people, made arrests, and took prisoners away. Several villagers were killed. Some people have returned recently but many remain in the surrounding villages. The *kariador*, or village leader, and the *shura,* group of elders, handle village-level decisions. They have administrative links to the district center of Belcheragh, which is 20 minutes away by car and 1 hour away by donkey or foot. The tax is annually collected by the village leader and submitted to the district governor. The people from Charemgary go to the Belcheragh governor to resolve disputes that cannot be settled at the village level.

**Social Institutions**
Although this survey did not measure community social structures directly, it asked about certain behaviors that reflect the existence of community social networks and safety nets. Like many villages in the region, Charemgary has an active community mobilization process that organizes community work projects.

During the previous 4 months, 30% of Charemgary households had taken loans to cover costs of weddings, asset purchases, or daily living expenses. The relationships between lenders and borrowers are not entirely clear, but there does seem to be an active system of lending that provides a safety net for some households during certain years or seasons. Additionally, households said they kept the Islamic practice of *zaqat*, or tithes, with better-off households giving a portion of their income to poor households. *Zaqat*, gifts, and gleaning provided income to 60% of households. Exchanging gifts in the form of food or other produce is widespread in Charemgary and goes beyond the extended family. Fifty-three percent of households borrowed food from a relative to make a meal during the survey period. These exchanges suggest the strength of local social networks.

**Community Facilities**
Both boys and girls go to the tent school in the village. The primary grades were recently established and are officially administered by the Ministry of Education. Several households said they wanted to build a school and one person had already donated the land. Teachers received 10 liters of oil each month from the World Food Programme in addition to their salary. During the previous 4 months, all the children enrolled in schools had received 100 grams of fortified biscuits each day. Girls attending school had also received 4 liters of oil every month.

Health facilities available to the community will be detailed later in the Risk to Lives section of this report. The nearest source of health care is a Ministry of Health facility in Belcheragh Center that is supported by a non-government organization.

**Local Perceptions of Socioeconomic Status and Wealth**
The community divided households into three different wealth groups. The better-off households made up 10% of the total, the medium-income households came to 30%, and the poor made up 60% of the households. These wealth groups will be used throughout the report to track the relative differences in the food security, risk to lives, and livelihood security of different households. Information on children's perception of wealth was also collected for better-off and poor households. In Charemgary, women and men have similar criteria for the different wealth groups, although women identified less livestock and land for each group than the men.

A better-off family has assets such as land, livestock, a house, new clothing, and enough to eat. These families kill animals during *Eid Qurban* and give part of the meat to less well-off families. A better-off family employs others and they provide *zaqat*. Children identified some other interesting criteria for the better-off families: They go on Haj and they send their sons on to higher education. A poor family has little land or no land at all. Poor families do not have enough to eat, they work for others, and they receive *zaqat*. Children also say members of a poor family do not have shoes and wear second-hand clothing. Poor children always worry about the future and have to work for other households.

| Assets and Activities | Wealth Group | | |
|---|---|---|---|
| | Better-off (10%) | Medium-income (30%) | Poor (60%) |
| **Male group perception** | | | |
| Land | 75 - 100 *jeribs* | 50 - 100 *jeribs* | 0-10 *jeribs* |
| Sheep/goats | 50-100 | 10-20 | 0-5 |
| House | has | has | has |
| Garden | has | 0 | 0 |
| Donkey | 3 | 2 | 1 |
| *Gilim* | 4 | 2 | 1 |
| Haj trip | has | has | none |
| Employment | people work for him | does own work | works for others |
| *Zaqat* | gives *zaqat* | gives *zaqat* | receives *zaqat* |
| Wedding expenses | 12,000USD | 8,000USD | 6,000USD |
| **Female group perception** | | | |
| Land | 25 *jeribs* | 10 *jeribs* | 0 |
| Sheep/goats | 40 | 9 | none |
| House | has | has | has |
| Donkey | 3 | 2 | 0 |
| *Gilim* | 3 | 2 | 1 |
| Employment | people work for her | does her own work | works for others |
| *Zaqat* | Gives *zaqat* | give *zaqat* | Receives *zaqat* |
| Wedding expenses | 12,000USD | 8,000USD | 6,000USD |

*Pots are used for both cooking and carrying water

## CHAREMGARY FOOD SECURITY

Certain indicators reveal information about access, availability, and quality components of food security. Monitoring these indicators can track changes in food security at a sentinel site, identify households' current food security status, and provide information on the nature of any food insecurity.

### Market Access

Belcheragh center is the market closest to Charemgary and nearby villages. There is a road connecting Charemgary and Belcheragh center that it takes about 20 minutes to travel by car. Most of the people go to Belcheragh by donkey or on foot, which takes about an hour. The people of Charemgary go to Belcheragh Center to trade livestock and livestock products, wheat, and other crops in exchange for food and non-food items. Transactions in the market usually take place in cash. Before the drought villagers also sold *gilims*, embroidered hats, carpets, and items found in the wild, such as cumin, *ing*, and mushrooms. The better-off households have looms and are starting to produce *gilims* again. Some better-off households have sewing machines and they are also rejuvenating production of embroidered hats. Less well-off families work for the better-off families making *gilims* and hats and spinning wool. Most households send one household member to the market on a weekly basis throughout the year. Women tend not have a role in the exchange of goods and only go to Belcheragh market for specific issues, often related to health care.

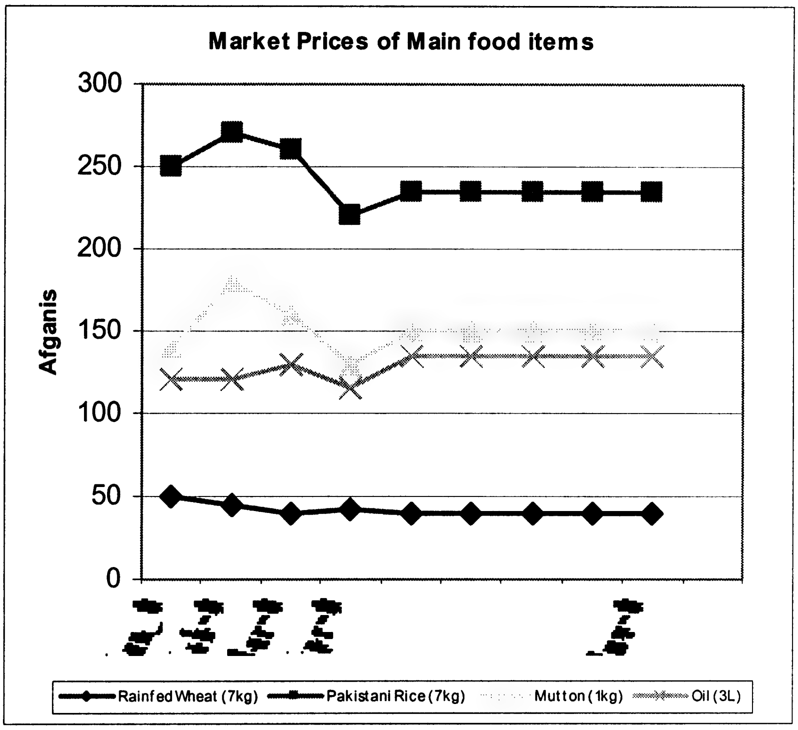
| Market location | Time to Reach Market | | Return trip cost | Market accessible in winter and spring? |
|---|---|---|---|---|
| | Vehicle | Foot | | |
| Belcheragh center | .20 | 1.5 hours | 0 | yes |

### Market Prices[1]

Households in the Charemgary area rely on the Belcheragh market for purchase of needed items. These would include oil, soap, and other nonfood products.

[1] Price data are not available for May 03 till October 03. We do not know if prices went down or up during that period. The chart needs to be read with that in mind.

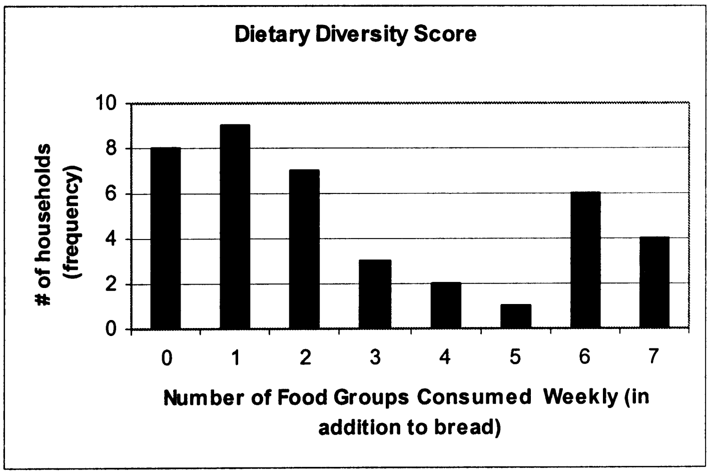
Data were collected during early 2003, and then again in late 2003. From January to April, the price of wheat declined slightly. Both rice and mutton fluctuated widely during this same period, with high prices in winter and lower prices as summer approached. Edible oil increased in price until April, the start of WFP oil distribution to the teachers and girls, and then leveled out.




**Dietary Diversity and Dietary Quality**

Dietary diversity is a primary component of food security. Previous studies have shown that dietary habits in Afghanistan are not very diverse, so people are at risk of micronutrient deficiency disorders and related diseases. It is not entirely clear how dietary preferences and available food types interact to determine household dietary patterns. In order to better understand the quality of diets during the previous 4 months, surveyors asked about the frequency of eating foods from different food groups. These results were used to create a dietary diversity score to capture dietary quality and monitor quality over time. A score was calculated for each household and the results produced the following chart.

The diversity score is calculated by attributing a score of 1.0 to each food group that was eaten at least once weekly by the household. Thus, households with a higher diversity score have a more diverse diet. Repeated surveys throughout the country indicate that most households consume cereals on a daily basis and thus cereals were not included in the diet diversity score. Earlier baseline surveys in the area suggested that most households consumed oil and so this was not included in the score either. In Charemgary, most households scored from 0 to 2, while a small number of households scored from 3 to 5, followed by a higher number of households scoring 6 and 7. This may indicate that households in Charemgary either have low or high diet diversity.




**Average Frequency of Food Group Consumption by Wealth Group**

The following table reflects the average frequency of consumption for food groups during the previous 4 months excluding Ramadan and festivals. Compared to other communities participating in the 2003 survey, Charemgary households consumed a diverse range of foods. The low consumption of pulses is difficult to explain, other than by culturally-determined preferences. The low intake of leafy green vegetables is due to the time of year in which the survey was taken. All households scored high on consumption of onions, carrots, squash, and potatoes.

Better-off households ate the most meat, but they lagged behind medium-income households in most other categories. Both poor and medium-income households ate more fruit than the better-off. Households in Charemgary have good access to fish which provide an important source of micronutrients. Fish are usually more available in winter when the men who fish are not involved in agricultural production.

**Average Frequency of Food Group Consumption by Wealth Group**

| Wealth Group | Meat | Milk, yogurt, *krut* | Eggs | Pulses | Leafy green vegetables | Other vegetables | Fruits | 1 = Never eat<br>2 ≤ Once a month<br>3 = 2 to 3 times a month<br>4 = Once weekly<br>5 = Twice weekly<br>6 = 3 to 5 times weekly<br>7 = Always eats |
|---|---|---|---|---|---|---|---|---|
| Better-off | 4.3 | 3.5 | 3.0 | 2.3 | 2.0 | 6.3 | 3.8 | |
| Medium-income | 3.6 | 3.4 | 3.3 | 2.5 | 2.3 | 6.2 | 4.8 | |
| Poor | 2.7 | 2.7 | 2.2 | 1.9 | 2.0 | 5.3 | 4.3 | |
| All households | 3.1 | 3.0 | 2.6 | 2.1 | 2.1 | 5.7 | 4.4 | |

**Crop Production**

Rural and semi-rural areas in Afghanistan are still highly dependent on subsistence agriculture for their own food, so monitoring annual crop yields and amounts planted can help predict the food security situation of households. In Charemgary, 78% of households in Charemgary produced crops, with 30% of those households depending on crop production as their main income source.

**2003 Harvest**

In 2003, 85% of households planted rainfed wheat while 45% planted it in 2002. The 2003 average yield was 199 *seers* and in 2002 it was 184 *seers* per household. In 2002, 6 households planted barley while in 2003 that number doubled. The average yield increased by nearly 25%, with 61 *seers* harvested per household in 2002 and 83 in 2003.

The average irrigated wheat harvest for 2003 season was 70 *seers* per household, twice that of 2002. In 2003 four households started to plant potatoes, a crop that had been a staple before the drought. In both 2002 and 2003, 8% of households planted sesame, which is grown for its oil. The average amount of sesame harvested per household doubled in 2003.

The data reveal that households had a much better harvest in 2003 than in 2002 for all crops, indicating an improved food security situation in Charemgary.

| **2002 and 2003 Harvests** *(1 seer = 7 kg)* | **Irrigated wheat** *(seers)* | | **Rainfed wheat** *(seers)* | | **Barley** *(seers)* | | **Potatoes** *(seers)* | | **Sesame** *(seers)* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2002** | **2003** | **2002** | **2003** | **2002** | **2003** | **2002** | **2003** | **2002** | **2003** |
| **Better-off** | 70 | 100 | 350 | 733 | 100 | 150 | - | 700 | 9 | 0 |
| **Medium-income** | 40 | 35 | 174 | 190 | 40 | 76 | - | 50 | 4 | 18 |
| **Poor** | 25 | 72 | 69 | 121 | 44 | 40 | - | 65 | 0 | 5 |
| **Average for all households** | **35** | **70** | **184** | **199** | **61** | **83** | **-** | **220** | **7** | **13** |
| **# of households with harvest** | 10 | 9 | 18 | 34 | 6 | 12 | 0 | 4 | 3 | 3 |

**Food Security Perception**

Household perception of food security is an important indicator of current food security status. In Charemgary, only 5% of the households considered the food situation to be worse than the previous year or 4 months ago.

In addition, 18% of households still thought they had not had enough to eat during the previous 4 months, with 14% from medium-income households and only 4% from poor households. Of all 40 households, 5% had worried about where their food was coming from at least 3 to 6 times a month. One household expected the situation to get worse in the next 4 months of winter, but 73% said they did not know if it would get worse or not.

Among the poor households were some with debts they were unable to repay, one household headed by a woman, and another with a disabled man as the main income earner. These households will continue to struggle for adequate food security.

| Perception of Food Security Indicators | % of 40 households |
|---|---|
| Consider food situation to be **worse** in comparison to 4 months ago | 5 % |
| Consider food situation to be **worse** than 1 year ago | 5 % |
| Considered food situation to not be sufficient at time of survey | 18 % |
| Worried where their food was coming at the time of survey | 5 % |
| Expect the food situation to be **worse** in the next 4 months | 3 % |

**CONCLUSION: CURRENT FOOD SECURITY STATUS**
Charemgary data on 2002 and 2003 harvests and the household perceptions of food security status indicate an improvement in the household food security situation relative to the drought years. However, 18% of the households thought they did not have enough to eat in the previous 4 months. Only one household thought it would be worse in the next 4 months.

## CHAREMGARY RISK TO LIVES

Indicators monitoring the risk to lives at sentinel sites can signal regions where individuals are more vulnerable and reveal underlying causes of increased risk. These indicators help gain better understanding of relationships involving nutrition, sanitation, morbidity, and mortality.

### Mortality Indicators

The survey found that the crude mortality rate (CMR) for Charemgary was 0.65 deaths/ 10,000 people/ day. This rate is below the emergency threshold rate of 1.0 death/10,000 people/day, but is high relative to the typical developing country level of 0.5 deaths/10,000 people/day. The mortality rate of children <5 was 2.41 deaths/10,000 people/day. This rate is above the emergency threshold rate of 2.0 deaths/10,000 people/day and the stable developing country rate of 1.0 death/10,000 people/day. Charemgary residents did not seem alarmed at the death rate during the previous 4 months, suggesting that the village often suffered from such mortality rates.

Of all deaths among women of childbearing age in Afghanistan, 48% can be attributed to complications during pregnancy or childbirth. Additionally, newborns only have a 25% chance of survival if their mothers die during childbirth and most die within the first month due to malnutrition.[2] Because of this high rate of maternal and child mortality in Afghanistan, this study also looked at the number of children who had a skilled birth attendant present at delivery as a proxy for risk to lives of both the mothers giving birth and the new infants. One baby was born in Charemgary during the previous 4 months, without the help of a skilled birth attendant.[3]

### Morbidity Indicators

The morbidity indicators included in the surveillance system are associated with a risk of mortality and are the primary causes of death for children <5 in Afghanistan. The incidence of watery diarrhea among children <5 in Charemgary was 37%, high enough to concern the village. As sanitation is poor, many of the cases of diarrhea disease could be directly linked to the lack of sanitation and proper hygiene. In Charemgary, none of the children <5 had had bloody diarrhea.

The survey found that 28.8% of children <5 had suffered from acute respiratory infections (ARI). Past surveys in this area note a higher incidence of ARI during the winter months and low incidence of ARI during the summer months. Since this survey took place at the beginning of winter, cool temperatures could be partly responsible for this figure. Additionally, children are continually susceptible to ARI infections because of overcrowding and poor ventilation during the winter months. The lack of adequate health and sanitation facilities contributes to children's vulnerability to all diseases.

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[2] MoH Afghanistan/UNICEF/CDC, 2002
[3] Because this question was only asked to female caregivers who had birthed a child in the last 4months, it did not include stillbirths or children who had died during the last 4 months, so there actually may have been more births in the site in the last 4 months.

| Risks to Lives Indicators | % |
|---|---|
| **Mortality Indicators**[4] | |
| Crude mortality (deaths/10,000/day) | 0.65 |
| Under 5 mortality (deaths/10,000/day) | 2.41 |
| Births in last 4 months attended by a skilled birth attendant (n=1) | 0.0 |
| **Morbidity Indicators** | |
| Children < 5 years with watery diarrhea (two week period) (n=24) | 36.5 |
| Children < 5 years with bloody diarrhea (two week period) (n=24) | 0 |
| Children < 5 with ARI (two week period) (n=24) | 28.8 |
| Children between 6 and 59 months with measles vaccination (n=24) | 59.6 |
| **Child Anthropometric Status (WFH % of median and MUAC)** | |
| Children with severe and moderate acute malnutrition, and edema (n=24) | 0.0[5] |
| Children between 6 months and 59 months with edema (n=24) | 0.0 |
| Children between 6 and 59 months with severe acute malnutrition (n=24) | 0.0 |
| Children between 6 and 59 months with moderate acute malnutrition (n=24) | 0.0 |
| Children between 1 year and 59 months with a MUAC under 13.5 cm (n=16) | 3.8 |
| Children between 1 year and 59 months with a MUAC under 12 cm (n=16) | 1.9 |
| **Adult Women Anthropometric Status** | |
| Reproductive age women (15-49 years) with a MUAC < 23.0 cm (n=33) | 15.6 |
| Reproductive age women (15-49 years) with a MUAC < 21.0 cm (n=33) | 0.0 |
| **Micronutrient Deficiencies** | |
| Households with iodized salt (only includes households with salt) (n=40) | 0.0 |

According to official statistics, measles vaccination coverage in Afghanistan is 95%. Ministry of Health (MoH) figures for the Belcheragh area report coverage of 96% as a result of a World Health Organization (WHO) and MoH measles vaccination campaign in June of 2003. However, this survey shows a measles vaccination coverage rate of 59.6% among children <5 in Charemgary. This is worrying, especially as previous surveys have reported measles as the primary cause of death in the total population. As recently as 1998, about 100 children died of measles in Charemgary.

## Children's Nutritional Status

Using weight-for-height (WFH) percentage of the median, the survey found no global acute malnutrition (GAM) prevalence in children between 6 and 59 months.

Children are classified as moderately malnourished with a middle upper arm circumference (MUAC) measurement of <12.0 cm and they are at risk of death. None of the children in the survey were reported in this category nor were any at risk of being malnourished with MUACs <13.5 cm. These figures along with the WFH results suggest that malnutrition for children <5 was not a problem in Charemgary.

## Adult Women's Nutritional Status

Low MUACs in women of childbearing age are associated with high maternal and infant mortality making it an important indicator for increased risks to women's mortality. The survey found that none of the women had a MUAC below 21.0 cm but more than 15% of women had a MUAC <23.0 cm. Additional information on cut-off standards needs to be collected to better interpret the implications of the percentage of women falling below 23.0 cm for a MUAC.

## Micronutrient Deficiencies: Iodine

Presence of iodized salt in the house is a proxy for the use of it and for iodine deficiency. Iodine deficiency is linked to the following disorders:

- In all individuals: goiter and loss of energy.
- In pregnant women: miscarriages, stillbirths, and mentally retarded children.
- In children: impaired mental and physical development, mental retardation, physical deformities, and cretinism.

No households had iodized salt, instead they use locally mined block salt.

## Health Facilities

The following table lists the health services or facilities that are available to the people in Charemgary. The only health service within the community is a group of traditional birth attendants. The closest formal health care is the Comprehensive Health Center (CHC) and the private doctor located in

[4] The mortality rate was calculated by collecting information on village deaths from the community *mullah*. This method of calculation is being piloted for the Afghanistan context and may be misleading when comparing the figures to standardized WHO mortality rate cut-offs. Thus, the mortality rate should be interpreted with caution until the pilot finding results are finalized.

[5] Malnutrition level assessments are reported based on a small cohort sample and should only be interpreted over time in order to understand shifts in nutritional status. Because the sample was randomly selected, these shifts are meant to reflect shifts in both the larger sentinel site population as well as the livelihood zone population.

Belcheragh Center. It costs around 50 Afghanis (Afs) to reach Belcheragh Center and the trip takes an hour by foot or donkey. The private doctor who prescribes medicines from a market shop charges a 50 Afghani fee. The CHC was supported by an international non-government organization (NGO) at the time of the survey but there were indications that the international NGO would stop supporting it. The CHC has a registration fee, but all consultations and available essential medicines are free. Two doctors are present at the CHC at all times. Trips to Belcheragh are possible all year long.

Other alternatives require a trip to Maimana, the provincial capital. It is at least 3 hours away by car and takes 8 hours by foot or donkey. It takes about 430 Afs to reach Maimana. In Maimana, patients from Charemgary first go to a private doctor, which costs 30 Afs. If an operation is needed they will then go to the provincial hospital and will pay about 5,000 Afs to have a procedure performed. Community members said that even better-off households would only go to Maimana in extreme cases. Although access to health care had improved enormously since the international NGO started to support the CHC in Belcheragh Center, women still identified local health care service their dominant need from outside assistance programs. Charemgary households' use of available health facilities has also improved because of health education, improvement of the road, and better economic circumstances.

| Health Services and Facilities | Facility / service provider location | Time to reach facility /provider | Round trip cost | Facility access | Facility accessible in winter and spring? |
|---|---|---|---|---|---|
| Health posts | none | -- | -- | -- | -- |
| Basic Health Center | none | -- | -- | -- | -- |
| Comprehensive Health Center | Belcheragh Center | 20 minutes by car | 50 Afs | everybody | yes |
| Hospital | Maimana | <1 day | | everybody | winter yes; spring sometimes |
| Traditional healers/birth attendants | Charemgary | <1 hour | 0 | women | yes |
| Skilled birth attendant | Belcheragh Center | <1 day | 50 Afs | women | yes |
| Private doctor | Belcheragh Center | 20 minutes by car | 50 Afs | everybody | yes |

### Water Sources for Household Use

The people of Charemgary get their water from the Belcheragh River. It is the primary source of water for drinking, bathing, and irrigation. The river runs through the middle of the Charemgary, where it is 20 meters wide. All villagers fetch water and they spend between 5 to 15 minutes carrying the water from the river to their homes.

| Drinking Water Source | Time taken for water collection | Quality Δ since last year | Quantity Δ since last year |
|---|---|---|---|
| River | <1 hour | same | same |

The quantity and quality of water had not changed between 2002 and 2003. The river can get muddy in spring and winter when rainfall increases. Households often use the river to dispose of their household garbage, potentially contaminating the river for people downstream.

### Sanitation Facilities

Most people in the village have vault latrines in their houses while others use open fields. Traditional pit latrines are impractical in Charemgary because the area is so stony. Children, especially the young ones, use toilets less than adults. Most people use human waste for fertilizer for their vegetable and cereal crops, a potential source of disease if not done correctly.

### CONCLUSION: RISK TO LIVES

Crude mortality rates in Charemgary during the previous 4 months were higher than typical developing-country rates. Mortality rates for children <5 were above emergency threshold levels. Morbidity patterns for children <5 were high and can be linked to the high mortality in the area. The low measles vaccination coverage rate is also of concern and efforts should be made in upcoming campaigns to improve coverage. Acute malnutrition rates for children <5 were 0.0%.

Health education in the village has raised awareness of the link between hygiene and disease, but the effort needs to continue so villagers understand the reasons behind high mortality rates. Establishing health posts with trained community health workers and birth attendants would increase essential health care.

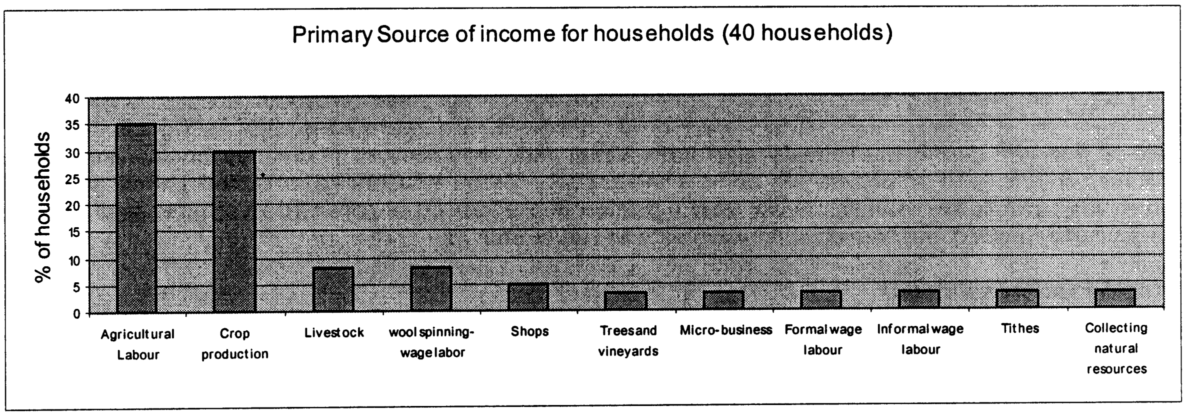
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## CHAREMGARY LIVELIHOOD SECURITY

Livelihood security indicators focus on the livelihood strategies of households within a community. They reveal livelihood assets related to particular income sources and expose current shocks to livelihood sources as well as households' abilities to cope with these shocks. Analysis of these indicators could provide agencies with sufficient information to decide whether there is a need to respond to a current shock. Finally, examination of coping strategies can identify characteristics of particularly vulnerable households.

### Livelihood Strategies

Agricultural labor had been the primary source of income for 35% of Charemgary households during the previous 4 months. Crop production had been the primary income source for 30%. Between 8% and 4% of households had depended on livestock, carpet weaving for wages, shops, fruit trees, micro-business, formal wage labor, informal wage labor, tithes, or natural resources as their primary source of income.




The following table shows the proportions of households engaged in each of the different income activities. The second column shows if women participated in the income activities. Data on women's income activities uncover the role of women in current livelihood strategies and provide information that men may have left out or not have been aware of when commenting on household income.

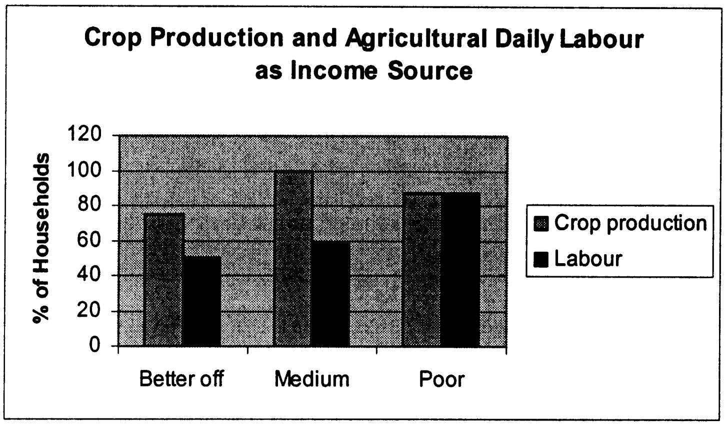
| **Household Income Activities as reported by men and women** (n = 40) | **% of households with income earned by men and women from activity cited at left** (per men) | **% of households with income earned by women from cited activity** (per women) |
|---|---|---|
| **Agricultural production** | 90.0 | 65.0 |
| **Agricultural production: fruit trees** | 2.5 | 17.5 |
| **Agricultural labor** | 75.0 | 62.5 |
| **Livestock** | 82.5 | 75.0 |
| ***Gilims* and handicrafts** | 15.0 | 15.0 |
| **Handicrafts (wage) labor** | 72.5 | 70.0 |
| **Shops** | 5.0 | 5.0 |
| **Micro-business** | 5.0 | - |
| **Formal wage labor** | 5.0 | - |
| **Informal wage labor** (men and women) | 5.0 | - |
| **Income from rent** | 12.5 | - |
| **Remittance** | 10.0 | 7.5 |
| **Loans** | 30.0 | 17.5 |
| **Begging** | 2.5 | - |
| **Gifts/tithes/gleaning** | 22.5 | 60.0 |
| **Mortgaging land, house, shop** | 5.0 | 5.0 |
| **Collecting natural resources** | 40.0 | 22.5 |

Agricultural production and agricultural day labor were identified as important income activities for both men and women during the previous 4 months. Livestock, which includes the selling of both the animals and their products, was also an important income source in Charemgary.

A large proportion of both men and women identified wage labor from home-based activities such as wool spinning and hat making as an important income source. During the previous 4 months Thirty percent of men and 17.5% of women said they had received income from loans during the previous four months. Many more women than men identified gifts, tithes, and gleaning as an income. Men are more involved in collection of natural produce found in the wild including cumin, mushrooms, and *ing*.

## Crop Production and Agricultural Day Labor

Crop production and agricultural labor were the primary sources of income for the majority of households in Charemgary. The following graph illustrates the wealth group percentages of households involved in these two activities.

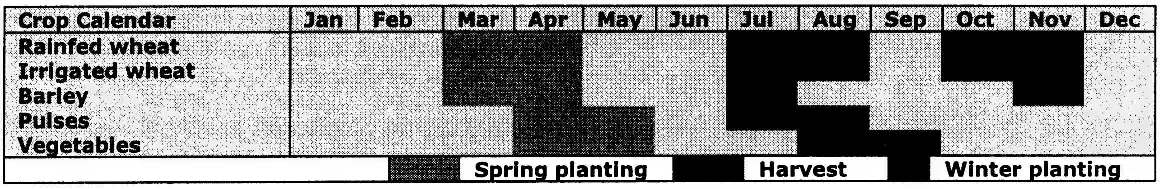



Crops are produced by 100% of the medium-income households and 60% supplemented their income through agricultural day labor. The poor households were divided with 85% producing crops and another 85% depending on agricultural day labor. Better-off households found income from other sources as 75% produced crops and 50% engaged in agricultural day labor.

In Charemgary, wheat, barley, sesame, and potatoes were the main crops in 2003. These crops were consumed by households and sold at market. Some households also grew peas, flax, and cotton. Many households also grew melons, onions, and tomatoes for home consumption. Some households collected cumin and *ing*, which they sold in the market. Every year a portion of the harvest is reserved to provide seed for the next year's planting and to reduce vulnerability to future shocks.

## Crop Seasonal Calendar

The following table shows the crop calendar for the main food staples in the area. In Charemgary, winter wheat is planted in October and November. Spring wheat is planted in March and April. The wheat is normally harvested in July and August. Up to 50% of the reserved seeds are planted to winter wheat and the remaining seeds are planted in the spring. Barley has a very similar planting calendar, except that winter planting starts one month later than wheat. Thirty percent of the barley is planted in the spring planting and the remainder is planted in the spring. Barley is normally harvested in July. Pulses and vegetables are planted in April and May and are harvested in August and September. Melons and sesame are planted in April and May and harvested in August and September.




## Crop Production Livelihood Assets: Land Ownership, Land Use Patterns, and Draft Animals

Land ownership is the key livelihood asset for agricultural production. Records According to MAAH sources in Maimana show that Charemgary has 400 *jeribs* of irrigated land and 4,000 *jeribs* of rainfed land. Charemgary is also identified as having adequate access to water, so rationing irrigation water is not necessary.

Land ownership patterns are listed in the following table. In Charemgary, 75% of the households owned land. More medium-income households owned both irrigated and rainfed land than better-off households. However, the average amount of land owned increases with increasing wealth. On average, better-off households owned 54.3 *jeribs*, medium-income households owned 32.1 *jeribs*, and poor households owned 13.0 *jeribs* of land, indicating that the amount of land owned was an important characteristic for differentiating wealth groups. Although a large proportion of poor households owned land, each plot was small. More than half of the poor households also owned a small amount of irrigated land, likely to be within their compounds. A larger proportion of medium-income households owned both irrigated and rainfed land than the better-off households did, but the better-off owned larger areas.

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| Land Ownership | All households | Better-off | Medium-income | Poor |
|---|---|---|---|---|
| **Households owning land (%)** | **75%** | **75%** | **92%** | **67%** |
| Average amount of land owned (*jeribs*) | 24.1 | 54.3 | 32.1 | 13.0 |
| **Households owning irrigated land (%)** | **65%** | **75%** | **83%** | **54%** |
| Average amount of irrigated land owned (*jeribs*) | 2.0 | 4.3 | 2.3 | 1.2 |
| **Households owning rainfed land (%)** | **67.5%** | **75%** | **83%** | **58%** |
| Average amount of rainfed land owned (*jeribs*) | 24.9 | 50.0 | 30 | 13.8 |
| **Households owning one or more draft ox(%)** | **30%** | **100%** | **50%** | **8%** |

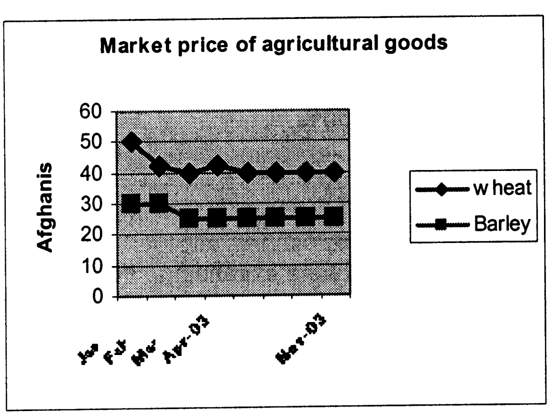
Land ownership is generally stable. However, during the drought a small percentage of households sold land in distress sales to other villagers. Land was not sold to people from outside the village. Land-use patterns had been very dynamic from year to year as household economic situations change and oxen were bought or sold. All the better-off households owned draft oxen while hardly any of the poor households did.

Human capital was also an important component of agricultural production in Charemgary, with both women and men working as agricultural labor. This high percentage may have been linked to the involvement of many households in the production of alternative crops such as poppies, which is labor intensive and requires the participation of women.

**Shocks to Agricultural Yields**

| Crop Destruction | Households with 20% to 50% of crop destroyed | Households with >50% of crop destroyed | Cause of crop destruction |
|---|---|---|---|
| **Rainfed wheat** | 47% | 6% | smut; other insects |
| **Irrigated wheat** | 11% | 0 | smut; floods |
| **Sesame** | 0 | 33% | floods |
| **Barley** | -- | 33% | floods |

Of the households growing rainfed wheat, 47% had lost 20% to 50% of their crops and 6% had lost more than 50% of their crops to smut and other insects during the previous 4 months. None of the households reported more than 20% damage to their barley or potato crops. These data suggest crop damage was not isolated to a few households. Male focus groups expressed concern about crop pests and diseases that affected crops in 2003. Despite these losses, 2003 was a good harvest year for Charemgary.




**Market Prices of Agricultural Goods[6]**

The table on the left shows that from January to April of 2003, the price of wheat dropped before the onset of summer. The price of barley dropped as well at the end of the spring.

In 2003, many farmers focused on poppy production because of the low return on wheat and the high return on poppies. Farmers in Charemgary started planting poppies after the drought, with the intention of recovering their livestock and agricultural assets.

According to information gained during informal interviews, 40% of households had planted at least one *jerib* to poppies, with each *jerib* yielding between 2 and 4 kilograms of raw opium. One kilogram of raw opium earned between 6,000 and 15,000 Afs, depending on when and to whom it was sold. This means that poppy growing earned a household anywhere between US$240 to $1,200 per *jerib*. It was clear that households intended to invest in more poppy crops in 2004. They anticipated that new seeds would yield at least 6 kilograms per *jerib*.

**Livestock**

Three households had received their primary source of income from livestock and livestock produce. In total, 82.5% of households claimed livestock as an income source and 75% of women claimed it as an income activity during the previous 4 months. Besides selling the livestock at the market and using

[6] Price data are not available for May 2003 to October 2003.

the produce of their animals for their own consumption, households had sold *krut* and *qaraqul* skins in the market. Livestock ownership had been severely affected by the drought and the troubled times between 1996 and 2001. Data suggest that households had lost between 70% and 80% of their livestock during this period.

| Livestock Ownership 2003 | Goats | Sheep | Draft oxen | Bulls | Cows | Donkeys |
|---|---|---|---|---|---|---|
| **Households with livestock** | 47.5% | 30% | 30.0% | 2.5% | 25% | 85.0% |
| **Average # owned** | 9.4 | 12.7 | 1.3 | 1.0 | 1.6 | 1.5 |

Donkeys are important to farmers in this region for transportation from the fields and delivering produce to market. In Charemgary, 85% of households owned a donkey. Only 47.5% said that they owned goats and 30% owned sheep. Data suggest that households were recovering from the drought. The following table shows livestock assets in a normal year, in the drought year of 2002, and in 2003.

| Livestock Ownership Over Time | Goats | Sheep | Draft oxen | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|
| **Households with livestock (%) in normal year** | **73%** | **53%** | **65%** | **80%** | **23%** | **88%** |
| Average # owned | 27.7 | 43.2 | 2.2 | 1.7 | 1.2 | 1.2 |
| **Households with livestock (%) in 2002 (drought year)** | **40%** | **23%** | **25%** | **28%** | **0%** | **85%** |
| Average # owned | 9.8 | 11.1 | 1.1 | 1.1 | 0.0 | 1.3 |
| **Households with asset (%) in 2003** | **48%** | **30%** | **30%** | **25%** | **0%** | **85%** |
| Average #owned | 9.4 | 12.7 | 1.3 | 1.6 | 0.0 | 1.5 |

**Livestock Disease**

When asked about the current disease status of their livestock, village leaders said their sheep and goats were affected by pasterellosis, black leg, anthrax, enterotoxaemia, foot and mouth, and sheep pox. They said their cattle and oxen had pasterellosis, black leg, and foot and mouth.

They claimed that 3% of their sheep and goats had been affected by anthrax and 33% by sheep pox, both of which are deadly and highly contagious diseases. Animals with anthrax, however, die within 24 hours, inhibiting spread of the disease. All of these diseases are so catastrophic that evaluators would have found corroborating evidence that livestock had died recently, but this was not the case. Therefore, it is unlikely that anthrax and sheep pox were as prevalent as the village leaders suggested. Livestock owners in Charemgary and the surrounding region had not vaccinated their animals against any disease so their livestock were at great risk from disease outbreaks.

| Livestock Disease | Cattle and oxen (% affected) | Sheep and goats (% affected) |
|---|---|---|
| Pasterellosis | 25% | 33% |
| Black leg | 25% | 5% |
| Foot and mouth | 100% | 50% |
| Enterotoxaemia | -- | 8 |
| Anthrax | -- | 3 |
| Sheep pox | -- | 33% |

**Grazing Land and Access to Water**

According to village leaders, access to grazing land in Charemgary has been reduced because agricultural lands were expanding. People said animals' access to water had decreased in 2003. A lack of rain in the spring meant the small ponds that usually fill were not available for the grazing animals throughout the summer.

**Trees and Vineyards**
Income from trees and vineyards during the previous 4 months was reported by 18% of women and 3% of men. Most of these crops produced income in June and July, just before the survey period. In Charemgary households grew apricots, almonds, pistachios, plums, grapes, mulberries, pomegranates, peaches, apples, and walnuts. These crops provide variety to household diets and enable exchanges at the market. A few households were also involved in fairly large production of grapes and about 50% of the households were involved in large production of roof beams from poplar trees. People reported that a late frost in the spring of 2003 had destroyed more than 50% of the plums, apricots, peaches, apples, almonds, grapes, mulberries, pomegranates, and walnuts.

| Trees Owned | % of households | Average # of trees owned | Range of ownership | % of households with 20%-50% of crops destroyed | % of households with >50 % of crops destroyed |
|---|---|---|---|---|---|
| Apricots | 45 | 4 | 1-10 | 6 | 6 |
| Peaches | 10 | 7 | 2-15 | 25 | 25 |
| Apples | 8 | 1 | 1-1 | -- | 33 |
| Plums | 18 | 3 | 2-4 | 14 | 14 |
| Almonds | 20 | 4 | 1-10 | -- | 13 |
| Pistachios | 3 | 1 | 1-1 | -- | -- |
| Grapes* | 13 | 38 | 1-150 | 20 | 20 |
| Mulberry | 35 | 3 | 1-10 | -- | 7 |
| Pomegranates | 23 | 4 | 1-10 | -- | 11 |
| Walnuts | 40 | 4 | 1-10 | -- | 6 |
| Poplar | 38 | 79 | 2-500 | -- | 7 |

*Refers to base vines

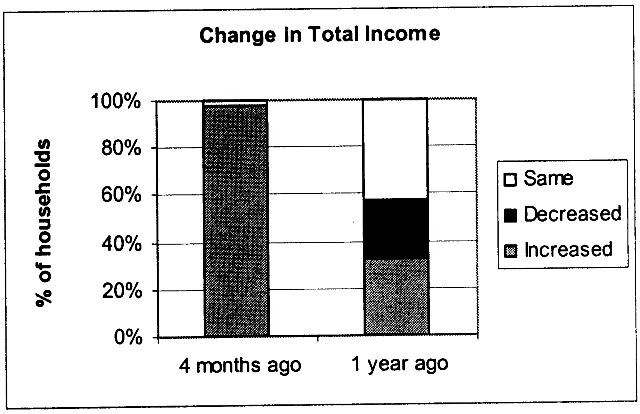
**Handicrafts, Wool Spinning, and *Gilim* Weaving**
In Charemgary, 73% of households had received wages for embroidering hats, weaving *gilims*, or spinning wool. Another 15% had collected income for producing and directly selling these goods.

In general, women from poorer households tend to spin the wool for better-off households. The women from the better-off households then weave the wool into *gilims*. Women said they had received between 310 Afs and 1,800 Afs in the previous 4 months for their work. They noted that the availability of wool had not changed during that period.

Both men and women said that more women earned income from weaving *gilims* before the drought. They claimed they still had the skills but had sold their looms. During interviews, both men and women asked for assistance to support this industry in their village.

***Zaqat* (Tithes), Gifts, and Gleaning**
Men reported that 23% of households received had income from *zaqat*, gifts, and other goods. Women reported that 60% of households had received this type of income. It is not clear if women had received the money or goods and the men were unaware since it often comes in the form of food, or if women felt more comfortable reporting it.

**Capacity to Cope: Coping Strategies**
The graph on the right shows that all but one household thought their income had increased in the four months prior to the survey. Compared to the previous year, 33% of the households said their total income had increased. On the other hand, 25% thought that their total income had decreased during the year and 32.5 % said their total income had remained the same. These results suggest that Charemgary was still recovering from the drought years and that poppy cultivation had added an economic boost to the generally good harvest season of 2003.




Information collected on coping behaviors that can signal declining livelihood and food security corroborates these findings. The coping strategies listed in this section do not include all the options that households may choose to survive difficult times. Instead, they include only those strategies that

are easily measured. The list has been divided into erosive and non-erosive coping strategies to better understand the long-term effects of different choices on a household's future livelihood security. The division is not mutually exclusive. The order in the list does not reflect a continuum of increasing desperation. The non-erosive strategy list does attempt to capture some adaptive strategies such as livelihood adjustments, income diversification, or consumption rationing. Finally, the coping strategies in the lists are to be considered options that, when chosen, signal a worsening situation. However, the listed strategies may also capture the behavior of vulnerable and chronically poor households that have no options and engage in these activities because they have to on a normal basis.

**Non-erosive Coping Strategies**
Results from coping behavior indicators in Charemgary signaled potential difficulties for some households but not for most. During the four months prior to the survey there was only one household that had sold jewelry. Excluding this one household there was no indication of distress selling of non-productive assets, although many households had never had such assets or sold what they did have during the drought.

Normally at the time of the year the survey was taken, households sell assets to cover the cost of winter preparations. In 2003, 13% of households had sold their family *gilims*. These sales were made to cover normal household expenses such as weddings, hospital bills, new oxen, or poppy seed for next year.

To meet daily expenses, 93% of the households had engaged in longer hours of work. This proportion was high because the survey took place during the harvest. In the Charemgary region, during harvest season, it is not unusual to have a family member migrate for seasonal agricultural work, so the 10% of households with a migrant farmer in the family is a reasonable proportion. Still, households that could be classified as vulnerable and chronically poor, based on asset holdings and crop production, were the households with migrant-farmer family members. Finally, 3% of households listed begging as an income source and 10% said they had eaten stale bread, again confirming the presence of households in the community suffering from chronic poverty.

| Coping Strategies | % (total #) |
|---|---|
| **Non-Erosive Coping Strategies** (last 4 months) | |
| Migrated for labor | 10% (4) |
| Begging | 3% (1) |
| Worked more hours to make daily expenses | 93% (37) |
| Borrowed food from relatives to make a meal | 53% (21) |
| Sold carpet/*gilims* from the house | 13% (5) |
| Sold house furniture | 0 |
| Sold house part (windows, doors, roof beams) | 0 |
| Sold bicycle | 0 |
| Sold jewelry | 3% (1) |
| Sold motorcycle/car | 0 |
| Ate stale bread | 10% (4) |
| **Erosive Coping Strategies** | |
| Took out loan - men | 30 % (12) |
| Took out loan - women | 18 % (7) |
| Sold or mortgaged land, house or shop | 5% (2) |
| Took food on credit from a shop | 78% (31) |
| Sent son(s) to work as indentured labor | 0 |
| Sold sewing machine | 0 |
| Sold loom | 0 |
| Sold handcart | 0 |
| Sold grinder | 0 |
| Sold tractor/combine/agricultural machinery | 0 |
| Married daughter early | 0 |
| Sent son(s) to military | 0 |
| Left community | 5% (2) |

**Erosive and Distress Coping Strategies**
Besides the usual coping mechanisms used to meet daily expenses, a small proportion of households chose options that were potentially erosive to future livelihood. Among the 40 households surveyed, 78% had bought food on credit from a local shop, 5% had sold or mortgaged property, and 5% had left the community. The amounts involved in the food credit are not entirely clear, so the consequences for households' current and long-term livelihood cannot be determined.

In the previous 4 months, 30% of men and 18% of women had taken loans. These loans were used to cover health costs, weddings, and daily living expenses. The households that took the loans to cover daily expenses had already had loans and were actually going into further debt.

**Capacity to Cope: Risk and Vulnerability**

The diversity of income sources can be scored using a similar method as used in assessing dietary diversity. The sources of income for Charemgary households were greater than other sentinel sites with an average income diversity score[7] of 4.80. Poor households had the highest range of diversity score. The poor often need income from more sources because each source is less secure. At the same time, better-off households have more secure income sources and therefore less need for diversity.

| **Average Income Diversity Score** | |
|---|---|
| **Better-off** | 3.75 |
| **Medium-income** | 4.58 |
| **Poor** | 5.08 |
| **All households** | 4.80 |

**CONCLUSION: LIVELIHOOD SECURITY SUPPORT**

Compared to other communities in Belcheragh district, Charemgary village and the surrounding region were doing well. They had ample access to water, which directly benefitted their crop production. Income from both rainfed and irrigated agriculture had grown significantly over the previous year through increased harvests of wheat, barley, potatoes, and sesame. Also, the introduction of irrigated poppy production had brought additional wealth to the community. Still, it is not clear that this is a sustainable income source for these households in the future.

Livestock diseases are a concern for Charemgary, where livestock suffered from a range of diseases. Charemgary needs a livestock vaccination campaign to eradicate debilitating diseases from village livestock.

Options for supporting socially-acceptable livelihood outcomes are presented in the table below. These options are conceptually arranged so that they illustrate how they would support five categories of livelihood assets.[8] Before initiating any of these projects the broader political and social contexts in which these communities work need to be further explored to understand if the projects are truly possible. Potential spill-over effects, including the constraints imposed by the seasonality of agricultural labor demands, deserve serious consideration.

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[7] An income diversity score is simply a count of the number of income sources for each household.

[8] The 5 categories are taken from the DFID Livelihoods Framework model and the format of the table is based on work done by Adam Pain, "Livelihoods Under Stress in Faryab Province" (2001).

## OPPORTUNITIES FOR SUPPORTING SOCIALLY ACCEPTABLE LIVELIHOODS

| Capital base | Asset | Means | Group | Livelihood Otcome* |
|---|---|---|---|---|
| **Natural** | Fishing | Support better fishing techniques; identify fish conservation methodologies | men and women | Increased fish; increased fish availability; possibility for fish marketing |
| | Grazing land | Support grazing lands through Ministry of Agriculture and Animal Husbandry (MAAH) and discourage people from using these lands for crops | all group | Strengthened livestock assets and supported public assets |
| | Water | Extend safe water use through closed wells in the village (build wells with hand pumps); support the building of *dands* for livestock water access | all groups, especially livestock owners | Increased water safety and availed water to livestock and people |
| | | Develop water use for the creation of electricity | all groups | Increased production; improved lighting at night |
| | | Develop water use for flour mills etc. | all groups | Increased and improved production of flour |
| **Physical** | Livestock | Set up clinics/veterinary services through MAAH in the area treat village livestock. | livestock owners | Enhance owners economic health<br>Increased livestock numbers |
| | *Dand* creation | Strengthen existing water *dands* in natural hollows in mountains | livestock owners | Water availability during summer for livestock |
| | School | Build school for boys and girls through Ministry of Education | children/all groups | Increased children's education |
| | Community/household toilets | Promote the building of toilets | all groups | Increased hygiene and reduced morbidity |
| | Bridge | Build pedestrian bridge over nearby river for better access to school and market. | all groups | Increased access |
| **Financial** | Credit | Provide credit to men and women for small scale investments | men and women | Increased handicraft, agriculture and livestock |
| | | Provide community credit for community projects | | |
| **Human** | Human health | Train community health educators; create health posts<br>Implement health education with a focus on hygiene<br>Implement top-up measles vaccination | all groups | Reduced risk of mortality and morbidity |
| | | Implement nutrition Education – promote a balanced diet | all groups | Improved nutrition status of children and women. |
| | Literacy course | Set up literacy courses through literacy department of Ministry of Education (teach Dari) | women and older girls | Improved child care<br>Increased access to information |
| | | Provide access to *Dari* language classes for improved literacy | women and girls | Increased access to education opportunities and information |
| | Handicrafts | Support sustainable/viable income generating projects for women. | women | Increased work facilities, econcmic and women value in the society. |
| | Nutrition | Support training in food conservation techniques | women | Improved access to foods; Income generation if marketed |

*This column includes the livelihood outcome or at least the initial step that will link the activity to increased livelihood outcomes.

Faryab Surveillance Unit

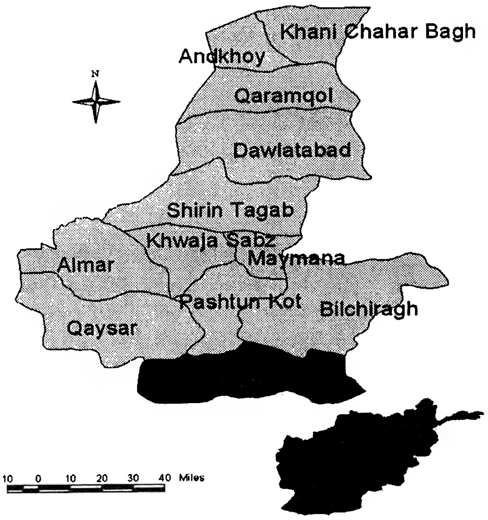
# National Surveillance System (NSS)
## Transitional Islamic State of Afghanistan

**Ministry of Rural Rehabilitation and Development; Ministry of Agriculture and Animal Husbandry, and Ministry of Health**

**Kohistan District** Takhnyak Sentinel Site

**Fall 2003**

Faryab Province




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**SUMMARY FINDINGS: TAKHNYAK**

**Food Security**

- The 2003 wheat harvest was better than that of 2002
- 33% of households felt they did not have enough to eat during the previous 4 months
- 35% worried weekly about where food would come from
- Dietary diversity was a concern for medium-income and poor households
- Surplus wheat, low prices, and inaccessibility of external markets encouraged poppy cultivation

**Risk to Lives**

- At 3.73 deaths/10,000 people/day, the mortality rate of children <5 was nearly twice emergency thresholds
- Only 12.5% of children had been vaccinated for measles in a region where measles is the leading cause of death
- Morbidity patterns for children <5 were high (ARI: 45.8%, watery diarrhea: 37.5%, bloody diarrhea: 16.7%)
- Acute malnutrition was high and should be monitored
- 98% of households did not have toilets
- The closest health care was 8 hours away by foot
- Population figures reported 43% women to 57% men, so women were suffering relatively high mortality

**Livelihood Security**

- No major shocks had affected the livelihoods of households in the Takhnyak area in the last year

**What is the NSS?**
The National Surveillance System monitors trends in key indicators to predict early signs of change and deterioration in food security, nutrition, and livelihoods. In conjunction with complementary data collection systems, the NSS provides relevant data for prioritizing limited resources and designing programs.

**Methodology**
The NSS is based on a sentinel site system, in which provincial level ministries follow a rotating cohort of households over time. Sites are selected so that they mirror the majority of the communities with respect to agro-ecological features, economic activities, available services, and people in a given area known as a livelihood or agro-ecological zone. Information from the sentinel site may not be representative of every village in the zone because of the diversity of livelihoods in Afghanistan. However, it is likely that the data from one sentinel site can signal concern for other villages in the same zone (See Annex I for detailed information on methodology).


Save the Children.
**The Faryab Provincial Surveillance Unit is supported by Save the Children USA and funded by DFID**

## REPORT OBJECTIVES

This document has several objectives. First, it intends to report information coming out of the National Surveillance System standardized methodology. Therefore, this report provides:

- current information on household food security status in Kohistan district,
- information on risk to lives and nutritional risk to individuals in Kohistan district,
- information on the current household livelihood security situation in Kohistan district, specifically looking at current shocks to livelihoods and the ability of households to adapt to these shocks, and
- better understanding of the vulnerability and risk of communities and households in Kohistan in relation to issues of food security, mortality, health, and nutrition.

Secondly, this report provides baseline information on indicators that are unique to a local area but had never before been explored in the depth needed for use in guiding programs and policies. These indicators reveal:

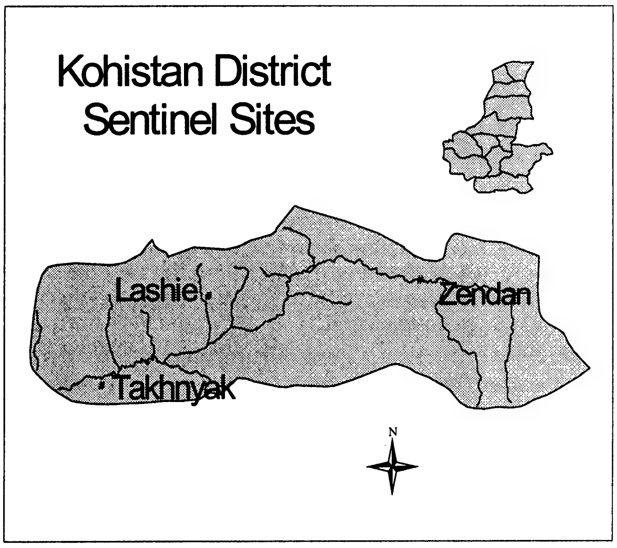
- characteristics of household wealth in Kohistan district;
- the presence of malnutrition, morbidity, and mortality in rural communities in Kohistan district; and
- types of livelihood strategies employed in Kohistan district.

Finally, the report aims to suggest how government and other agencies can use this new understanding about livelihoods, vulnerability, and risk for designing and prioritizing program interventions and effective policies.

## KOHISTAN DISTRICT LIVELIHOOD ZONES

Kohistan is a rural district found in southeastern Faryab Province. The Murghab River flows from northeast to southwest, cutting the district in half. The altitude ranges between 1000 to 3000 meters above sea level. Kohistan consists of rolling upland plains cut by steep incised valleys. The plains are used for agriculture or grazing, while the steep valleys have water flowing through them that supports limited agricultural irrigation. The meaning of the word Kohistan in Dari is mountainous land, referring to the Tirkeband-e Turkestan mountain range running through the region.

Lawlash is the district center, but in practice district administration is divided between Bandar (western Kohistan) and Lawlash (eastern Kohistan), each with its own governor. Traditionally, the Bandar governor has had links with the Jumbesh political party and the Lawlash governor with the Jamiat-i Islami party. Recently, the leader of the eastern part of Kohistan has switched sides and is now supporting Jumbesh. The governor in Bandar is now the official governor while the leader of the east has taken up the military leadership of the district. The population of Kohistan is dispersed, with two main population centers in the northwest. Other populated areas lie along the Murghab in the southwest and east. Accurate information on the numbers of villages, households, and inhabitants are not available, however estimates suggest that Kohistan has just over 100 villages, with 46 in Lawlash territory and 56 in Bandar. Kohistan can be divided into three distinct livelihood zones. A sentinel site was chosen from each area and this report includes information on the sentinel site from Zone 3, Lashie (see map).




**Zone 1: Rainfed Land (38 villages): Takhnyak**
Zone 1 encompasses three clusters of villages in the southwestern section of Faryab. These villages are mainly found on high, flat, rainfed plains, where the main crop is wheat.

**Zone 2: Grazing Land and Irrigated Agriculture (11 villages): Zendan**
Zone 1 covers the northeastern part of Kohistan. Livestock is the main source of income for these villages, but they also have intensively irrigated small-scale agriculture located along the riverbeds.

**Zone 3: Mixed Irrigated and Rainfed Land (43 villages): Lashie**
Zone 3 covers the northern section of Kohistan. Many springs feed irrigation systems, allowing for small plots of intensive agriculture. The villages are surrounded by areas of rainfed land, which are used for growing wheat.



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## TAKHNYAK GENERAL INFORMATION

### Background Geography

Takhnyak is the village chosen to represent villages in southwestern Kohistan. These villages can be reached from Bandar center by walking north through a deep, narrow gorge for about five hours and then turning right at the Murghab River. From here one must climb along a steep canyon wall about 500 meters high to reach any of the villages in the area. Takhnyak is the village closest to the river in this cluster and sits at an altitude of 1,500 meters above sea level. It can also be reached from Ghor in the south.

According to village elders, Takhnyak was settled in 1700. The people identify themselves as Aimak[1] and speak Dari. The village has one mosque and 132 households. Average household size in Takhnyak is small compared to other locations in Afghanistan, at 4.9 members per household. Based on other survey work and current data from the Afghanistan Central Statistical Office, the average household size in Afghanistan is 6.1. Better-off households in Takhnyak generally have more members than medium-income and poor households. Better-off households tend to remain in joint families while poor households split into nuclear families as soon as sons are married. The village has 43% women and 57% men, indicating high mortality rates in women.

| Average Household Size | |
|---|---|
| **Better-off** | **6.5** |
| **Medium-income** | **5.1** |
| **Poor** | **4.5** |
| **All households** | **4.9** |

Information for this report was collected in three surveys. The first was a nutrition survey in July 2002 and the second collected baseline surveillance data in November 2002. The most recent survey, in November of 2003, used the standardized national food security and nutrition surveillance methods. Most of the information used in this report was collected during the November 2003 survey via male and female focus group interviews and 40 household interviews. The households interviewed in 2003 were the same 40 households interviewed in 2002.

### Administrative System and Political Affiliations

During the period of 1979 to 1991, Takhnyak village first supported the Hisb-i Islami party in local conflict with the Jamiat-i Islami party, based in Lawlash. During the power struggles, they shifted their support to the Jumbesh party, based out of Bandar. Between 1991 and 1998, there was constant conflict between Jamiat-i Islami and the Jumbesh party in the area, with winter bringing in Jamiat-i Islamicontrol and summer bringing in Jumbesh control. Despite the dynamic nature of the conflict, little physical destruction took place, beyond looting. The Taliban arrived in 1998, in the person of a local commander. He collected all the weapons from the village and then left. After the Taliban, the village has been loyal to the Jumbesh party and the Bandar governor who is the Jumbesh party representative for Kohistan.

The *kariador* or village leader and the *shura* group of decision-making elders handle village-level decisions. They have administrative links to the district center of Bandar, which is at least 8 hours away by donkey or foot. Takhnyak villagers pay annual and monthly taxes for military services to the Bandar governor and go to him for any dispute resolution that cannot be settled in the community.

### Social Institutions

Although this survey did not measure community social structures directly, it asked about certain behaviors that reflect the existence of community social networks and safety nets. Like many villages in the region, Takhnyak has an active community mobilization process that organizes work projects. The community collectively maintains the long pathway leading down to the river from the village, a responsibility probably shared with other villages using this path to water and the market. The community also maintains *dands* for water collection. Women have set up an organized system for water collection, but the community structure that facilitates this is not known.

During the previous 4 months, 46% of the households had taken loans to cover costs of weddings, asset purchases, or daily living expenses. The relationships between lenders and borrowers are not entirely clear, but there does seem to be an active system of lending that provides a safety net for some households during certain years or seasons. Additionally, households said they kept the Islamic practice of *zaqat*, or tithes, with better-off households giving a portion of their income to poorer

[1] A large part of the Tajik population living south of the Murghab River identify themselves as Aimak. These people consider themselves different from the Tajiks and seem to have links with Turkey; however it is not clear what distinguishes them from the Tajiks. They are both Sunni, but have some differences in language. The Aimak use some Uzbek and Turkish words in their language. It is believed that the Aimak came to Kohistan around the time of the Moghul ruler Timor.

households. Of the 40 households surveyed, 2 reported having received *zaqat* as an income source. A high percentage of households, 78%, had borrowed food from a relative in order to make a meal. This suggests the strength of social networks in this area.

**Community Facilities**
Both boys and girls go to the *madrassa* in the village. In addition, many of the younger children attend primary school in Shahna village, which is about one hour away. The Shahna school is not officially administered by the Ministry of Education and is closed during the winter and harvest season. Some households voiced interest in having a school in their community. The nearest health facilities are in Bandar, eight hours away by donkey or foot. Health issues in the community will be discussed later in the Risk to Lives section of this report.

**Local Perceptions of Socioeconomic Status / Wealth**
The community divided households into three different wealth groups, or socioeconomic categories. The better-off group made up 10%, medium-income households formed 30%, and the poor made up 60% of the total. The table to the right describes typical characteristics of each wealth group. These wealth groupings will be used throughout the report to clarify the relative differences in food security, risk to lives, and livelihood security among households.

| Assets and activities | Wealth Group | | |
|---|---|---|---|
| | Better-off (10%) | Medium-income (30%) | Poor (60%) |
| **Male group perception** | | | |
| Land | 100 *jeribs* | 10-15 *jeribs* | 0-5 *jeribs* |
| Sheep/goats | 50 | 5 | none – 1 |
| House | 3 rooms | 1 room | 1 room |
| Donkey | 1-2 | 1 | 0 |
| Water | collect with donkey | collect with donkey | carry with pot |
| Carpet | 0 | 0 | 0 |
| Gilim | 2-3 | 1 | 0 |
| Travel | Bandar market | none | none |
| Employment | people work for him | does own work | works for others |
| Remittances | none | yes | none |
| Zaqat | gives *zaqat* to *mullah* | none | receives *zaqat* |
| **Female group perception** | | | |
| Land | 50-100 *jeribs* | 25-50 *jeribs* | 5-10 *jeribs* |
| Sheep/goats | 70-80 | 5-10 | none |
| House | 3 rooms | 1 room | 1 room |
| Donkeys | 3 | 1 | 0 |
| Carpets | 4-5 | 1 | 0 |
| Iranian carpet | 1 | 0 | 0 |
| Gilims | 4-5 | 2 | 1 |
| Dishes | Many | Few | 2 pots* |
| Travel | Bandar | none | none |
| Employment | people work for her | does own work | works for others |
| Remittances | none | yes | none |
| Zaqat | gives *zaqat* to *mullah* | none | receives *zaqat* |
| Clothes | has several dresses | has two dresses | has one dress |
| Jewelry | has many coins, a watch and bracelets | has some coins (not silver) | has none |

* Pots are used for both cooking and carrying water

Information on children's perceptions of wealth was collected for better-off and poor households:

**Better-off households**
*A better-off household has at least five mattresses, six blankets, and five gilims. They have several rooms, a stock room for wheat, a stock room for fodder, and a shed for the cows and sheep and goats. They have a shepherd who looks after the sheep and goats and they also have a dog. Their house has a toilet and several ovens for cooking. There is a tape recorder bought in the city in the house.* (boy)

*A better-off household has 100 sheep and goats, a donkey, 35-100 jeribs of land, a house with a yard, and they have gilims, valuable copper items, and many mattresses and blankets in the house. They have good clothes and the women have velvet waistcoats with many coins. They have people working for them and are able to give to* others. They bring the water from the river by donkey. (girl)

**Poor households**
*A poor family has 15 jeribs of land, two chickens, and one donkey. They have stock rooms but they are empty. They have 3 mattresses, 3 blankets, an old gilim, and an Iranian carpet in their house. They don't have a dog and their father works as a shepherd.* (boy)

*They own no land and no livestock. They have no shoes to wear, have no coins attached to their clothes, and look thin and sick. They carry the water from the river, the men work for others or as shepherds, the women work in other families' homes, the girls work for others, and spin the wool and make hats for money. The girls milk cows for others, make gilims and tablecloths for money. Some family members go in search of work in Iran and send money, cloth, and burqas. A poor family takes loans from the rich family, the rich family will identify when the money needs to be back. If the family can not pay back the loan, the loan doubles, giving another year time to repay.* (girl)

## FOOD SECURITY

Certain indicators reveal information about access, availability, and quality components of food security. Monitoring these indicators can track changes in food security at a sentinel site, identify households' current food security status, and provide information on the nature of any food insecurity.

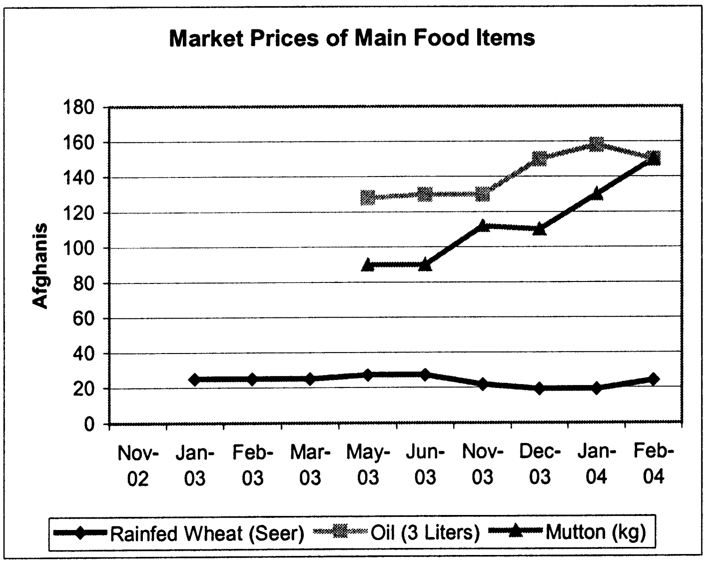
### Market Access

Bandar is the closest food market to Takhnyak. There is no road access to the Bandar market from Takhnyak and reaching it takes 8 hours by donkey or foot. People usually stay overnight in Bandar and have to pay for accommodation if they do not have relatives nearby. It costs about 200 Afghanis (Afs) for a return trip to the market. The people of Takhnyak go there to trade livestock, wheat, and other crops for food and non-food items. Before the drought they also sold *gilims* at the market. Transactions in the market place are usually paid in cash. People from this area sometimes travel south for two days by donkey to the market in Chaksharan, the capital of Ghor province.

| Market location | Time to reach market by foot | Round trip cost | Market accessible in autumn and spring? |
|---|---|---|---|
| **Bandar** | 8 hours | 200 | Yes, but rarely used |

Most households send one household member to the market on a weekly basis during the spring, summer, and autumn. The Bandar market is accessible during the winter months, but people rarely go there during this period.

In the past, traders crossed the region exchanging their goods for local wheat, peas, watermelon seed, cumin, pistachios, animal skins, *kurk*, and *krut*. Because the price of wheat had decreased and the amount of local goods for sale had declined because of the drought, the traders no longer visited the region. Women participated in the exchange of goods when traders visited their villages. Because households now had to go to Bandar market, women no longer had a role in exchange. Women from Takhnyak rarely go to Bandar market at all.




### Market Prices

Takhnyak households rely on the Bandar market for purchase of very few food items. They mainly purchase oil from the market, while some households will occasionally buy potatoes and onions.

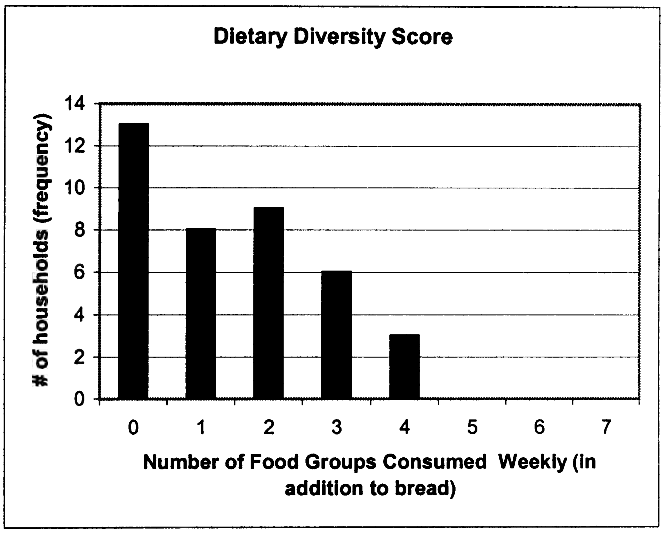
The data plotted in the graph on the left show that the prices of wheat, mutton, and oil were fairly constant between March and June. By November the price of oil and mutton had increased while the price of wheat had decreased. Both male and female focus groups identified increasing food prices as a concern for the community.

Households in the Takhnyak region do not purchase wheat because they grow enough for their own consumption, so the low wheat price did not help the majority of

households. However, daily labor workers were able to receive more wheat for a day's work than in the past, because the price of wheat was so low this year.

**Dietary Diversity and Dietary Quality**

Dietary diversity is a primary component of food security. Previous studies have shown that dietary habits in Afghanistan are not very diverse and consequently people are at risk of micronutrient deficiency disorders and related diseases. It is not entirely clear how dietary preferences and available food types interact to determine household dietary patterns. To better understand the quality of diets in the last four months, surveyors asked about the frequency of eating foods from different food groups. These results were used to create a dietary diversity score to determine dietary quality and monitor it over time. A score was calculated for each household and the results can be seen in the following graph.




The diversity score is calculated by attributing a score of 1.0 to each food group that was eaten at least once weekly by the household. Thus, households with a higher diversity score have a more diverse diet. Repeated surveys throughout the country indicate that most households consume cereals on a daily basis and thus cereals were not included in the diet diversity score. Earlier baseline surveys in the area suggest that most households consumed oil/fat regularly and so this also was not included in the score. On average all Takhnyak had a dietary diversity score of 1.4, with the largest proportion of households scoring 0.0. Diversity scores are higher for better-off households, at 3.50, than for medium-income and poor households, both scoring 1.17. These results suggest that better-off households have access to a broader range of foods.

The baseline food security survey of late 2002 indicated that most households before the drought had access to a variety of food items, mainly their own produce: animal fat/*ghee*, wheat, melons, pistachio nuts, meat, milk, yogurt, *krut,* and eggs. Before the drought there also was access to rice, potatoes, onions, and dried fruit from Bandar. By late 2002, most households reported access only to wheat and watermelon, although potatoes were also available to some. The results from this survey, one year later, are similar. Better-off households ate a more diverse diet because they still owned animals. Additionally, they were more likely to buy food from the market in Bandar because they had something to sell.

The following table reflects the average food group consumption frequency during the last four months, excluding Ramadan and festivals, by wealth group. The data show that on average medium-income and poor households ate protein-rich foods, such as meat and milk products, once a month or less. They got protein from eggs, which they ate on average about 2 times a month. Households need a complementary protein source in addition to wheat to meet their full essential amino-acid requirements. Based on the frequency of consumption of complementing pulses, it is highly unlikely that households consumed enough to meet adequate protein requirements.

**Average Frequency of Food Group Consumption by Wealth Group**

| Wealth group | Meat | Milk, yogurt, *krut*, etc. | Eggs | Pulses | Leafy green vegetables | Other vegetables | Fruits | 1 = Never eat<br>2 ≤ Once a month<br>3 = 2 to 3 times a month<br>4 = Once weekly<br>5 = Twice weekly<br>6 = 3 to 5 times weekly<br>7 = Always eat |
|---|---|---|---|---|---|---|---|---|
| Better-off | 2.3 | 4.0 | 4.3 | 2.8 | 1.0 | 6.5 | 6.8 | |
| Medium-Income | 1.6 | 1.9 | 2.8 | 1.4 | 1.0 | 2.9 | 5.0 | |
| Poor | 1.6 | 1.5 | 2.6 | 1.3 | 1.0 | 3.3 | 4.7 | |
| All households | 1.7 | 1.9 | 2.9 | 1.5 | 1.0 | 3.5 | 5.0 | |

In the previous 4 months, no households had eaten leafy green vegetables. This is consistent with dietary habits at this time of the year and before the drought. They do, however, eat wild spinach

when it is in season. All households had eaten squash and potatoes at least 2-3 times a month, with better-off households eating them almost daily.

Watermelon was the only fruit available in Takhnyak during the period of the survey, and had been eaten at least once weekly by all households. Frequency of consumption increases by wealth group, with better-off households eating watermelon almost every day.

As data were not collected on quantities consumed, it is not possible to make statements regarding sufficiency of vitamins and mineral intake. Areas of potential concern would be: 1) vitamin A from animal sources, 2) beta-carotene from plant sources, 3) calcium from milk-related products, 4) iodine from salt, and 5) vitamin C from fresh plant sources.

### Crop Production

Rural and semi-rural areas in Afghanistan are highly dependent on subsistence agriculture to supply their own food, so monitoring annual crop yield and amounts planted can help predict the food security situation. In Takhnyak, 95% of households produced crops, while 80% of households counted on agricultural production as their main source of income.

### 2003 Harvest

In 2003, all 40 households produced wheat. In 2002 only 25 of the 40 households had produced wheat. The average amount of wheat produced per household in the 2003 harvest season was 202 *seers*, an increase over the 171 *seers* produced in 2002. Only one household had grown barley in 2002, producing 120 *seers*. In 2003, 16 households produced barley with an average of 40 *seers* per household. The data reveal that, in general, households had a better harvest in 2003 than in 2002, contributing to an improving food security situation for this region.

| **2003 Harvest (1 *seer* = 7kg)** | **Rainfed wheat *(seers)*** | | **Barley *(seers)*** | |
|---|---|---|---|---|
| | **2002** | **2003** | **2002** | **2003** |
| **Better-off** | 305 | 375 | 120 | 60 |
| **Medium-income** | 155 | 219 | - | 42 |
| **Poor** | 139 | 165 | - | 33 |
| **All households** | 171 | 202 | 120 | 40 |
| **# of households** | 25 | 40 | 1 | 16 |

### Food Security Perception

Household perception of food security is an important indicator of current food security status. In Takhnyak none of the households considered the food situation worse than it had been the previous year or four months previously. This is consistent with information that was collected on the harvest, including that of alternative crops, and an increase in assets from the previous year at this time.

However, 33% of households thought they had not had enough to eat during the previous four months and 35% had worried at least 3 to 6 times a month where their food was coming from. Of these 14 worried households, 9 were poor and 5 were medium-income. None of the households expected the situation to be worse in the next four months, but 65% answered that they did not know if it would be or not.

| **Perception of Food Security Indicators** | % of 40 households |
|---|---|
| Consider food situation to be **worse** than 4 months ago | 5 % |
| Consider food situation to be **worse** than 1 year ago | 8 % |
| Considered food situation insufficient at time of survey | 33 % |
| Worried where their food was coming from at the time of survey | 35 % |
| Expect the food situation to be **worse** in the next 4 months | 0 % |

## CONCLUSION: CURRENT FOOD SECURITY STATUS

The data on crops harvested in 2003 relative to 2002 and the household perceptions of their food security status indicate an improvement in the household food security situation from the time of the drought to the time of the survey. However, dietary diversity was still a concern for all households in Takhnyak, particularly the medium-income and poor. The full consequences of a low quality diet on disease and mortality, and on economic productivity, are not entirely clear but the implications need to be further explored. Education on dietary diversity, particularly with a focus on ensuring access to all essential nutrients using local foods, could improve the quality of people's diets.

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## RISK TO LIVES

Indicators monitoring the risk to lives at sentinel sites can signal regions where individuals are more vulnerable and reveal underlying causes of increased risk. These indicators help gain better understanding of relationships involving nutrition, sanitation, morbidity, and mortality.

### Mortality Indicators

The crude mortality rate (CMR) for Takhnyak was 0.89 deaths/10,000 people/day. This rate is above the normal developing country level of 0.5 deaths/10,000 people/day but below the emergency threshold rate of 1.0 death/ 10,000 people/ day. The mortality rate in children <5 was 3.73 deaths/10,000 people/day. This rate is nearly three times the normal developing country rate of 1.0 death/10,000 people/day and nearly twice the emergency threshold rate of 2.0 deaths/10,000 people/day. The local people did not seem alarmed at the rate of deaths during the previous 4 months, suggesting that the village often suffered from high mortality rates.

Of all deaths among women of childbearing age in Afghanistan, 48% can be attributed to complications during pregnancy or childbirth. Additionally, newborns only have a 25% chance of survival if their mothers die during childbirth and most die within the first month due to malnutrition.[2] Because of this high rate of maternal and child mortality in Afghanistan, this study also looked at the number of children who had a skilled birth attendant present at delivery as a proxy for risk to lives of both the mothers giving birth and the new infants. Only one child was recorded as being born in the last four months and this child did not have a skilled birth attendant present at birth.[3]

### Morbidity Indicators

The morbidity indicators included in the surveillance system correlate with mortality risk and are the primary causes of death for children <5 in Afghanistan. At 38%, the incidence of watery diarrhea among Takhnyak children <5 was high enough that diarrhea should concern the village. The 17% of children <5 with bloody diarrhea is even more disturbing, since reported cholera outbreaks in the community caused deaths in 1999 and 2001. Sanitation is poor in the village, so many of the cases of diarrhea may have been directly linked to the lack of hygiene practices, lack of toilet facilities, and shortage of water.

The survey found that 46% of children <5 had suffered from acute respiratory infections (ARI). Past surveys in this area note a higher incidence of ARI during winter and low incidence during summer. Since this survey took place at the beginning of winter, the cooling weather could have been partially responsible for this higher figure. Poor hygiene practices and the lack of adequate health and sanitation facilities also enhance children's susceptibility to ARI.

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[2] MoH Afghanistan/UNICEF/CDC, 2002

[3] Because this question was only asked to female caregivers who had birthed a child in the last four months, it did not include stillbirths or children who had died during the last four months, so there actually may have been more births in the site in the last four months.

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| Risk to Lives Indicators | % |
|---|---|
| **Mortality Indicators[4]** | |
| Crude mortality (deaths/10,000 people/day) | 0.89 |
| Under 5 mortality (deaths/10,000 children/day) | 3.73 |
| Births in last 4 months attended by a skilled birth attendant (n=1) | 0.0 |
| **Morbidity Indicators %** | |
| Children <5 years with watery diarrhea (two week period) (n=26) | 37.5 |
| Children <5 years with bloody diarrhea (two week period) (n=26) | 16.7 |
| Children <5 with ARI (two week period) (n=26) | 45.8 |
| Children between 6 and 59 months with measles vaccination[5] (n=24) | 12.5 |
| **Child anthropometric status % (WFH and MUAC measurements)** | |
| Children with severe and moderate acute malnutrition, and edema (n=24) | 12.5[6] |
| Children between 6 months and 59 months with oedema (n=24) | 0.0 |
| Children between 6 and 59 months with severe acute malnutrition (n=24) | 0.0 |
| Children between 6 and 59 months with moderate acute malnutrition (n=24) | 12.5 |
| Children between 1 year and 59 months with a MUAC under 13.5 cm (n=16) | 37.5 |
| Children between 1 year and 59 months with a MUAC under 12 cm (n=16) | 18.8 |
| **Adult women anthropometric status %** | |
| Reproductive age women (15-49 years) with a MUAC <23.0 cm (n=33) | 21.2 |
| Reproductive age women (15-49 years) with a MUAC <21.0 cm (n=33) | 3.0 |
| **Micronutrient deficiencies** | |
| Households with iodized salt (only includes households with salt) (n=40) | 0.0 |

The World Health Organization (WHO) and the Ministry of Health (MOH) sponsored measles vaccination campaigns in Takhnyak in November 2001 and June 2002. According to official statistics, measles vaccination coverage in Afghanistan is 95% and MOH figures for the Bandar region in Kohistan report coverage to be 96.7%. The measles vaccination coverage of 12.5% among children under five in this round of data is worrying, especially because the primary cause of death among the total population is measles.

### Children's Nutritional Status

Using weight for height (WFH) percentage of the median, the survey found a global acute malnutrition (GAM) prevalence of 12.5% for children between 6 and 59 months. None of the children were suffering from oedema or were severely malnourished with a WFH < 70%. Thus, the 12.5% of malnourished children all fell into the moderately malnourished category.

Children classified as moderately malnourished by middle upper arm circumference (MUAC) measurements (<12.0 cm) are potentially at risk of death. About 19% of the children in the survey were moderately malnourished and 37.5% were at risk of malnourishment (<13.5cm). These figures, along with the WFH results, suggest that acute malnutrition for children <5 should concern the village.

### Adult Women's Nutritional Status

Low MUACs in women of childbearing age correlate with maternal and infant mortality, making it an important indicator of increased risk to adult women. The survey found that 22% of women had a MUAC below 23.0 cm and 3% had a MUAC below 21.0 cm. Additional information on cut-off standards needs to be collected in order to better interpret the implications of the percentage of women with a MUAC of <23.0 cm. With 22% of the women in the village below this cut-off and 3% <21.0cm, women of childbearing age in Takhnyak are threatened by malnutrition.

### Micronutrient Deficiencies: Iodine

Presence of iodized salt in the house is a proxy for use of it and for iodine deficiency. Iodine deficiency is linked to the following disorders:

- In all individuals: goiter and loss of energy
- In pregnant women: miscarriages, stillbirths, and mentally retarded children
- In children: impaired mental and physical development, mental retardation, physical deformities, and cretinism

No households had iodized salt, instead they use locally mined block salt.

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[4] The mortality rate was calculated by collecting information on village deaths from the community *mullah*. This method of calculation is being piloted for the Afghanistan context and may be misleading when comparing the figures to standardized WHO mortality rate cut-offs. Thus, the mortality rate should be interpreted with caution until the pilot finding results are finalized.

[5] While clinics start measles vaccination at nine months, campaigns in remote areas such as Kohistan cover children six months and over.

[6] Malnutrition levels are reported based on a small cohort sample and should only be interpreted over time in order to understand shifts in nutritional status. Because the sample was randomly selected, these shifts are meant to reflect shifts in both the whole sentinel site populations as well as the whole livelihood zone population.

## Health Facilitiess

The following table lists the health services or facilities that are available to the people of Takhnyak. A traditional birth attendant is the only health service provider within the community. The next closest access to health care would be the private doctor who prescribes medicines out of a shop in Bandar market. It costs around 200 Afs to reach Bandar, which is at least 8 hours away by foot or donkey. Trips to Bandar are possible in the winter months, but only taken if necessary. Other alternatives require a trip to Maimana. This is at least a 2 day trip and costs around 3,000 Afs, requiring one day on foot or donkey and one day on local transport. Community members said that better-off households would travel to Maimana for care only in extreme cases and in winter it is not possible for anyone to make this trip.

| Health Facilities and Services | Facility / service provider location | Time to reach facility | Round trip cost | Facility access | Facility accessible in winter and spring? |
|---|---|---|---|---|---|
| **Health posts** | none | -- | -- | -- | -- |
| **Basic health center** | none | -- | -- | -- | -- |
| **Comprehensive health center** | Maimana | >1 day | 3000 Afs | everybody | no |
| **Hospital** | Maimana | >1 day | 3000 Afs | everybody | no |
| **Traditional healers/birth attendants** | Takhnyak | <1 hour | 0 | women | yes |
| **Skilled birth attendant** | Maimana | >1 day | 3000 Afs | -- | no |
| **Private doctor** | Bandar | 6 to 12 hours | 200 Afs | everybody | no |

In focus groups and in household level interviews, women clearly identified health care as their number one request for outside assistance and men acknowledged a need for health care in the village.

## Water Sources for Household Use

The people of Takhnyak obtain water for household use from a river, two springs, and a *dand*. The primary source of drinking and bathing water is the Murghab River, which runs through a steep narrow valley 400 meters below the village. Men spend between 3 and 6 hours fetching water from the river, with donkeys if they own them. They go down to the river twice a week with a donkey bearing 15 liter tanks to hold the water. Poor households and those households without male members rely on women to get water from the river on a daily basis or from the nearby springs or *dand.* The local springs, about 5 minutes walk from the village center, are managed by two women. These women rotate on a daily basis and oversee the amounts taken for each household. The water from these springs is salty and not used for drinking. They provide each household with 3 liters of water in the morning and 8 liters of water in the middle of the day. The community also relies on water from the *dand* in the winter and spring when snow and rain are plentiful.

| **Water Source** (in order of quantities used) | Time used to collect water | Quality Δ since last year | Quantity Δ since last year |
|---|---|---|---|
| **River** | 3 to 6 hours | same | increased |
| **Spring (salty)** | 1 to 3 hours | same | increased |
| ***Dand*** | < 1 hour | same | increased |

Both men and women in the community saw lack of water as a key problem in the village, particularly in terms of hygiene and time spent on collection. Women complained that they were only able to wash once every 2 weeks. The community was planning to build another *dand* in the upcoming months to catch the winter rains and snow, but requested outside assistance to build a cement *dand* that would supply water close to the village for a greater part of the year.

## Sanitation Facilities

There is one vault latrine in the village. It is privately owned by one household and is used only by guests. The rest of the villagers use the areas around their houses or nearby fields as toilets. Certain areas seemed to be used more often than others because they were shielded from the view of others. Leaders of the community did not think it necessary to construct toilets in the village or to designate certain areas for toilet use. When asked if the community wanted toilets, one leader commented that toilets were not necessary, "...because the soil is soft and it is easy to quickly cover up what you do." It was not clear whether women felt comfortable defecating and urinating during daylight hours, but in discussions with women the lack of toilets did not seem to be a source of concern. Evaluators did see uncovered feces in areas where children played and everyone walked, noting a potential link between disease and poor nutritional status.

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### Conclusion: Risks to Lives

Mortality rates in Takhnyak remain a cause of concern, particularly in children <5. The low average household size of 4.9 in Takhnyak suggests that early mortality is a problem, particularly for poor households which have an average size of 4.5. Population figures suggest that women are at higher risk than men since there were 43% women and 57% men. Reasons for high mortality can be attributed to high morbidity rates, poor nutritional status, lack of toilets and other sanitation facilities, lack of access to health care and water, and poor hygiene practices.

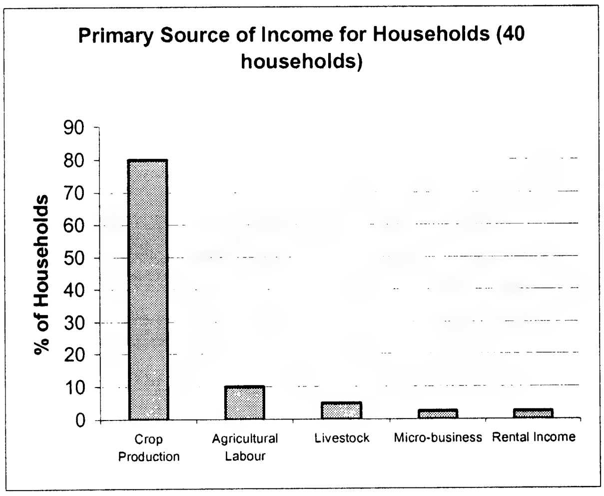
Options for reducing mortality in the Takhnyak region include health and nutrition education, focusing on hygiene and sanitation. Community sanitation projects could reduce the level of diarrhea. Only 12.5% of children <5 were immunized, a particularly disturbing figure since measles was the leading cause of death in the area. Distance to health care will continue to be a problem for the people of Takhnyak and the surrounding region. Health care is unlikely to improve until either local people are trained in basic health care as community health workers or doctors start to visit outlying areas on a rotation system.

## LIVELIHOOD SECURITY

Livelihood security indicators focus on the livelihood strategies of households within a community. They reveal livelihood assets related to particular income sources and expose current shocks to livelihood sources as well as households' abilities to cope with these shocks. Analysis of these indicators could provide agencies with sufficient information to decide whether there is a need to respond to a current shock. Finally, examination of coping strategies can identify characteristics of particularly vulnerable households.

### Livelihood Strategies

Crop production had been the primary source of income for 80% of Takhnyak households during the previous 4 months. Agricultural wage labor provided primary income to 10% of households. Livestock supported 2 households. One household had a micro-business selling goods acquired from Bandar market and one rented out donkeys as a primary income source.




The following table captures the proportions of households engaged in each of the different income activities. It is intended to illustrate the relative importance of the different livelihood strategies to the community as a whole.

Crop production was practiced by 95% of households in the village. Agricultural day labor was a source of income for 65% of households during the previous 4 months. These households came from all three wealth groups. Livestock, including the sale of animals and income from livestock products, was also an important income source for Takhnyak households. Loans had provided income to 45% of households. Other sources of income for these households included handicrafts, wool spinning, and *gilim* weaving; wage labor earned by making *gilims*; micro-business; rental of property; full-time wage labor; repayment of loans; and collection of cumin.

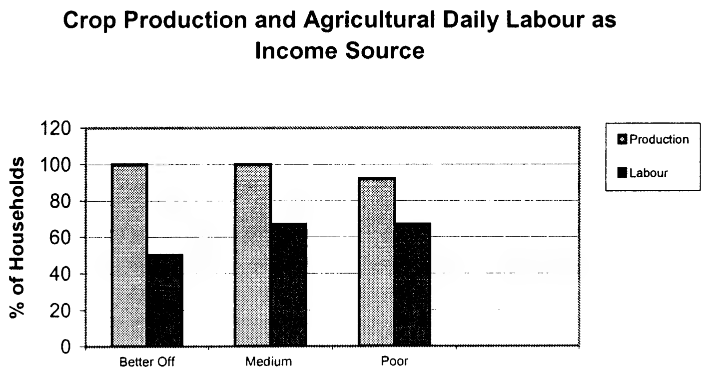
| **Income Activities** n = 40 households | **% of households with income earned by men and women from activity cited at left** (per men) | **% of households with income earned by women from cited activity** (per women) |
|---|---|---|
| **Agricultural production** | 95.0 | 72.5 |
| **Agricultural labor** | 65.0 | 5.0 |
| **Livestock** | 67.5 | 62.5 |
| ***Gilims* and handicrafts** | 7.5 | 7.5 |
| **Wool spinning–wage labor** | 12.5 | 15.0 |
| **Micro-business** | 2.5 | - |
| **Informal wage labor** | 5.0 | - |
| **Rental income** | 10.0 | |
| **Loans** | 45.0 | 2.5 |
| **Repayment of loans** | 5.0 | |
| **Begging** | - | 2.5 |
| **Gifts/tithes/gleaning** | - | 10.0 |
| **Collecting natural resources** | 2.5 | - |

Data on women's income activities

uncover the role of women in current livelihood strategies and provide information that men may have left out or not realized when commenting on household income. Major sources for women's incomes crop production, livestock, wool spinning, and income from gifts, *zaqat*, or gleaning. Other sources include agricultural labor, weaving *gilims*, making handicrafts, loans, and begging.

### Crop Production and Agricultural Daily Labor

Crop production and agricultural labor remain an important source of income for the majority of households in Takhnyak. The following graph illustrates the proportion of households involved in both of these activities by wealth group.




All better-off and medium-income households and over 90% of poor households produced crops. Wheat and barley were the main income-earning crops for Takhnyak households. Some households grew surplus pulses to sell. Watermelons were grown for home consumption. Some households sold watermelon seeds in the Bandar market. Every year a portion of the harvest is reserved to provide seed for the next year's planting and to reduce vulnerability to future shocks.

### Crop Seasonal Calendar

The following table shows the crop calendar for the main food staples in the area. In Takhnyak, winter wheat is planted in October, November, and December and spring wheat is planted in March and April. Normally, the wheat is harvested in June and July. Winter planting requires 30% of the reserved seeds and the remaining portion is used for spring planting. Barley has a very similar planting calendar, except spring planting starts one month later. Pulses are planted in May and are harvested in August and September. Watermelons are planted towards the end of May.

| Crop Calendar | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rainfed wheat | | | Spring planting | Spring planting | | | | Harvest | Harvest | Winter planting | Winter planting | Winter planting |
| Barley | | | | Spring planting | | | | Harvest | Harvest | Winter planting | Winter planting | Winter planting |
| Pulses | | | | | Spring planting | | | Harvest | Harvest | | | |

Spring planting | Harvest | Winter planting

### Village Land-Use Patterns

Village land use had shifted considerably since the onset of the drought. In 1998, land was sown with a variety of crops including wheat, barley, sesame, melons, and pulses. In 2002, after 4 years of drought, the village let 2500 *jeribs* of land lie fallow and grew less wheat, barley, sesame, and melons. They did not grow pulses at all. Evidence shows that land-use patterns remained dynamic in 2003.

### Crop Production Livelihood Assets: Land Ownership, Draft Animals, and Human Capital

Land ownership is the key livelihood asset for agricultural production. Land ownership patterns are listed in the following table. Takhnyak village claims a total of 7500 *jeribs* of rainfed land. Community leaders reported that some people have land records kept in Maimana, others have records given by village leaders, and some people do not have official records. Village leaders said that during the drought between 5 to 10 households lost a portion of their land, but no household had had to sell all of its land. In the past year, land patterns had remained relatively constant.

| Land Ownership | All households | Better-off | Medium-income | Poor |
|---|---|---|---|---|
| Households owning land | 95% | 100% | 100% | 91.7% |
| Average amount of land owned (*jeribs*) | 14.2 | 28 | 15.5 | 11.0 |
| Households owning at least one draft ox | 35% | 100% | 58% | 13% |

In Takhnyak, 95% of households owned land, but 2 of the poor households were completely landless. The average amount of land owned differed according to wealth group. Better-off households owned 28 *jeribs* on average, medium-income households owned an average 15.5 *jeribs*, and poor households owned an average of 11.0 *jeribs* suggesting that land ownership was a key characteristic of wealth



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differentiation in the community. During the previous 4 months, 12.5% of households had been sharecroppers. Yields by wealth group also reflect the land ownership patterns in the village, with poor households producing on average less than two-thirds the wheat harvest of better-off households.

Draft oxen are extremely important for crop production in Takhnyak. During the previous 4 months, 38% of households owned at least one ox or bull, with 100% of better-off households, 58% of medium-income households, and 13% of poor households owning draft animals. In the past year some households had been able to buy oxen, suggesting that the economic situation in the area was improving.

Human capital is also an important component of agricultural production in Takhnyak, with both women and men working on the farms. The limited number of able-bodied workers in each household suggests family livelihoods are vulnerable to the loss of able-bodied workers.

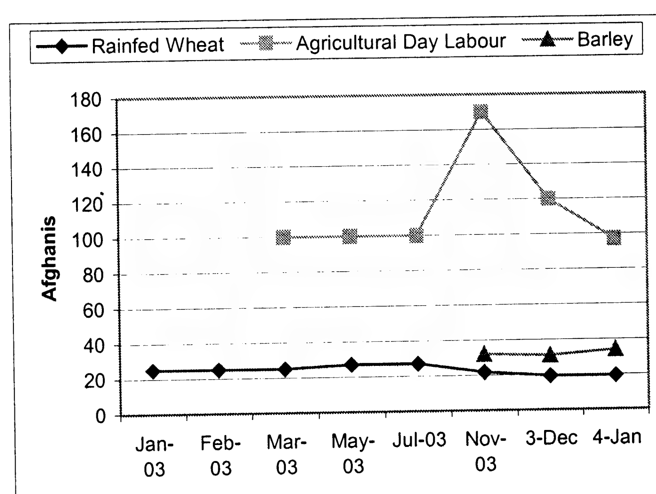
**Shocks to Agricultural Yields**

During the previous 4 months, 25% of wheat-producing households had lost between 20% and 50% of their crops, and 2.5% of households had lost more than 50%, to damage by smut, locusts, and lack of rain. None of the households reported more than 20% damage to their barley and pulse crops. These data suggest that crop damage had been isolated to a few households and overall the area experienced a good planting season. However, male focus groups voiced concern about crop pests and diseases.

| Crop Destruction | Households with 20% to 50% of crop destroyed | Households with >50 % of crop destroyed | Cause of destruction |
|---|---|---|---|
| **Wheat** | 25% | 2.5% | Smut; locusts; lack of rain |
| **Barley** | 0 | 0 | -- |
| **Pulses** | 0 | 0 | -- |

**Market Prices of Agricultural Goods**

In Lawlash, one of the two district markets in Kohistan,[7] wheat prices varied between 25 and 20 Afs per *seer*. This was much lower than the price in the rest of the country, which hovered above 40 Afs for the entire year. The low price in Kohistan reflects a local high-supply/low-demand situation. The southern part of Kohistan is traditionally a wheat surplus area, so this is not a surprise. In Maimana, wheat is sold at prices similar to the rest of the country, but the cost of transport is too high for these farmers to sell their wheat there. Farmers in the Takhnyak area said that in 2003 they did not bother to harvest their entire crop and left some of it in the field because wheat prices were so low and agricultural labor prices so high. Low wheat prices also meant that households with a surplus stored their harvest instead of selling it immediately.




In addition many of these farmers turned to poppy production during the 2003 planting season. Considering the low wheat prices and the stable high return from poppy production, farmers in the Takhnyak region will increasingly turn to poppy production as a livelihood source. In the past year, around 50% of households planted one jerib of poppies. Just one jerib produced between 2kg and 4kg of raw opium for each of these households. One kilogram of raw opium earned between 6,000 and 15,000 Afs, depending on when and to whom it sold the product. This means that households earned between 240 and 1,200 US dollars from 1 *jerib* of land. It was clear that households intended to invest in more poppy cultivation during the 2004 harvest, anticipating the new seeds from Kandahar that they thought would yield 6 kg of raw opium per *jerib*, or more.

[7] The Lawlash market prices mirror the Bandar market prices. The two markers are only an hour apart and are about equidistant from, and have similar road access to, Maimana center. The Lawlash market prices are shown in the graph above, except for barley, as data is available from the beginning of 2003.

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The price of agricultural day labor soar reached extremely high levels during the 2003 harvest season when it peaked at 190 Afs. High labor prices benefited the 65% of households earning income from daily labor, but cost those households relying on daily labor to harvest surplus crops. However, households who were net producers were most likely growing poppies, an activity that drives up labor wages.

**Livestock**
During the previous 4 months, 5% of households had gained their primary source of income from livestock and livestock products. However, 68% of households and 63% of women claimed livestock as an income source. Households generated *kurk*, *krut*, and the skins of *qaraqul* from their livestock, for their own use and for sale at the market along with the animals themselves.

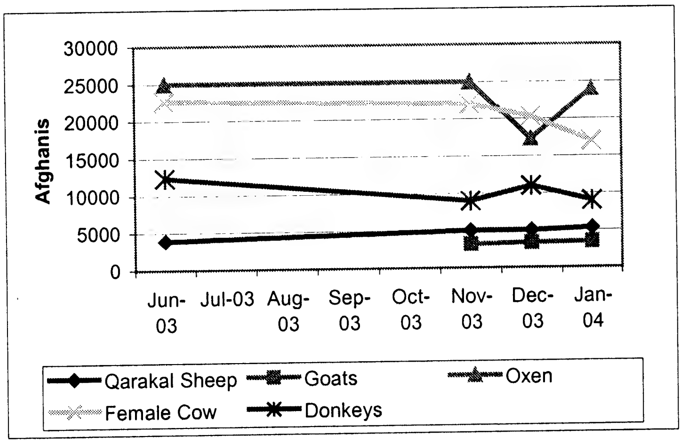
Almost all households owned donkeys, which are extremely important to people in this region because they are used for hauling water up the 400 meters from the river and for traveling to the market. According to the survey, only 7.5% of Takhnyak households owned sheep and 17.5% owned goats.

| Livestock Assets | Goats | Sheep | Oxen | Bulls | Cow | Donkey |
|---|---|---|---|---|---|---|
| Households with asset | 17.5% | 7.5% | 35.0% | 5.0% | 7.5% | 92.5% |
| Average # of assets owned | 12.7 | 6.7 | 1.4 | 1.0 | 1.3 | 1.2 |

**Livestock Diseases**
When asked about the disease status of their livestock, the village leaders claimed that their sheep and goats had been affected by anthrax, foot and mouth disease, and sheep pox and that all their cattle had foot and mouth disease. They said that 5% of the sheep and goats had anthrax and 25% had sheep pox, both of which are highly contagious and deadly diseases. Animals with anthrax, however, die within 24 hours, inhibiting spread of the disease. All of these diseases are so catastrophic that evaluators would have found corroborating evidence that livestock had died recently, but this was not the case. Therefore, it is unlikely that anthrax and PPR are as prevalent as the village leaders suggested.

| Livestock Illness | Cattle | Sheep and goats |
|---|---|---|
| **Anthrax** | -- | 5% |
| **Foot and mouth** | 100% | 25% |
| **PPR (Sheep Pox)** | -- | 25% |

Foot and mouth disease has been a problem in the past for Takhnyak farmers and certainly remains one today, but it is unlikely that 100% of their cattle suffered from it. Livestock owners in Takhnyak and the surrounding area have not vaccinated their animals against any disease so their livestock are at great from disease outbreaks.




**Livestock Prices**
Livestock prices through the latter part of 2003 and at the very beginning of 2004 showed few significant trends. The price of sheep increased slightly and the price of cows definitely decreased.

**Grazing Land and Water Access**
According to village leaders, access to grazing land in Takhnyak was stable during previous 4 months and the productivity of the grassland matched that of the previous year. Livestock's access to water was satisfactory and similar to the previous year.

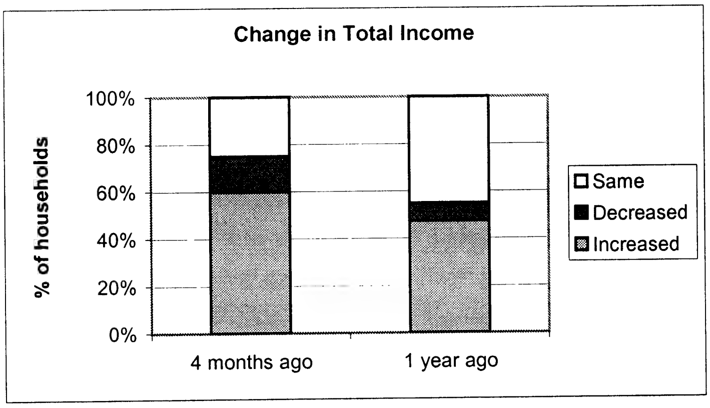
**Handicrafts, Wool Spinning, and *Gilim* Weaving**
In Takhnyak, 15% of women earn income from spinning wool and 7.5% weave *gilims* and make handicrafts. Women from poor households usually spin the wool for an hourly wage received from better-off households. The women from the better-off households then weave the wool into *gilims*. Other handicrafts were made and sold for cash. Women noted that they received between 260 Afs to

2,000 Afs during the previous 4 months for their work. They remarked that the availability of wool had increased as well as the hourly wage they received for spinning the wool during this period.

Both men and women noted that before the drought, more women earned income from weaving *gilims*. They said that many of the women still had the skills but they sold the looms when food was scarce. Additionally, acquiring wool was still a constraint despite the recent increase in availability. During focus group and individual household interviews, both men and women asked for assistance to restart the *gilim* industry in their village.

**Capacity to Cope: Coping Strategies**

The graph shows that 15% of households thought that their income had decreased during the previous 4 months and that 7.5% thought it had decreased during the previous year. Total incomes had increased 60% during the 4 months and 47% said that it had increased during the whole year. This suggests that in the past year no major livelihood shocks had affected the major proportion of households in the area and that livelihoods were on a rebound after the drought.




Information collected on coping behaviors that can signal declining livelihood and food security corroborates these findings. The coping strategies listed in this section do not include all the ways that households may take to survive tough times. Instead, they include only those strategies that are easily measured. The list has been divided into erosive and non-erosive coping strategies to better understand the long-term effects of different choices on a household's future livelihood security. The division is not mutually exclusive. The order in the list does not reflect a continuum of increasing desperation. The non-erosive strategy list does attempt to capture some adaptive strategies such as livelihood adjustments, income diversification, or consumption rationing. Finally, the coping strategies in the lists are to be considered options that, when chosen, signal a worsening situation. However, the listed strategies may also capture the behavior of vulnerable and chronically poor households that have no options and engage in these activities because they have to on a normal basis.

**Non-erosive Coping Strategies**

In general, the results from coping-behavior indicators did not signal a worsening situation in the Takhnyak area. During the four months prior to the survey there was no indication of distress selling of non-productive assets, although many households had never had such assets or had sold what they did have during the drought. Normally at the time of the year the survey was taken, households sell assets to cover the cost of winter preparations. In 2003, 12% of Takhnyak households sold their family *gilims*. Most of the sales covered costs of weddings, hospital bills, new oxen, or alternative seed for next year. Only one household that sold their family *gilim* said their income had decreased in the previous 4 months, but even this household claimed its income had increased since 2002.

To meet daily expenses, 98% of Takhnyak households engaged in longer hours of work. This proportion is high because the survey took place during the harvest. Similarly, in the Takhnyak region during harvest season, it is not unusual to have a family member migrate for seasonal agricultural work and so the 15% of households with a migrant farmer in the family is a reasonable proportion. Still, households that could be classified as vulnerable and chronically poor, based on asset holdings and crop production, were the households with migrant-farmer family members. Finally, 1 household listed begging as an income source, suggesting the presence of households in the community suffering from chronic poverty.

| Coping Strategies | % |
|---|---|
| **Non-Erosive Coping Strategies** (last 4 months) | |
| Migrated for labor | 15 |
| Begging | 3 |
| Worked more hours to make daily expenses | 98 |
| Borrowed food from relatives to make a meal | 78 |
| Sold carpet/gilim from the house | 13 |
| Sold house furniture | 0 |
| Sold house part (windows, doors, roof beams) | 0 |
| Sold bicycle | 0 |
| Sold jewelry | 0 |
| Sold motorcycle / car | 0 |
| Ate stale bread | 0 |
| **Erosive Coping Strategies** | |
| Took a loan (men) | 45 |
| Took a loan (women) | 3 |
| Sold or mortgaged land, house or shop | 0 |
| Took food on credit from a shop | 5 |
| Sold sewing machine or loom | 0 |
| Sold handcart | 0 |
| Sold grinder | 0 |
| Sold tractors/combine/agricultural machinery | 0 |
| Married daughter early | 0 |
| Sent son(s) to work as indentured labor | 8 |
| Sent son to military | 0 |
| Households left community | 0 |

**Erosive Coping Strategies**

Besides the usual coping mechanisms used to meet daily expenses, a small proportion of households chose options that are potentially erosive to future livelihoods. Among the 40 households surveyed, 5% bought food on credit from a local shop and 8% sent sons to work as indentured labor. The amount involved in the food credit or the terms defining the indentured labor were not entirely clear, so the consequences for households' current and long-term livelihood cannot be determined.

From August through September of 2003, 45% percent of households took loans. These loans were used for capital asset accumulation in the form of livestock such as donkeys and oxen, health costs, weddings, and daily living expenses. Thus, many of these loans actually signaled an improvement in livelihood security as households were willing to risk investment in asset accumulation. On the other hand, the households that took the loans to cover daily expenses already had loans and were actually going into further debt.

**Capacity to Cope: Risk and Vulnerability**

Households in the Takhnyak area have very few sources of income as most households rely on agricultural production and daily labor. The diversity of income sources can be scored using a similar method as used in assessing dietary diversity. This method shows that Takhnyak households have an average income diversity score of 3.18. Given that 65% of households had income in the previous 4 months from loans, the actual amount from real income sources is more likely to be just over 2.0. Better-off households had the highest range of diversity as they often had income from agricultural production, daily labor, and livestock. Some of these households also had income from *gilim* weaving. Poor households seem to have had slightly higher income diversity than that of medium households, but again, that may be attributable to loans.

| Average Income Diversity Score | |
|---|---|
| **Better-off** | 3.75 |
| **Medium-income** | 3.00 |
| **Poor** | 3.17 |
| **All households** | 3.18 |

While Takhnyak households scored low for income diversity, they also had a high dependence on agriculture-related income sources and therefore they are particularly vulnerable to covariate risk, which means that risks threatening one source of income threaten others also. Alternative income sources that do not have the built-in risk involved with agriculture production would reduce the threat of poor rainfall. Historically droughts have not affected this part of the country very often so, in the interim, households have had been able to produce enough surplus wheat to support the rebuilding of animal stocks and agricultural recovery.[8] Still, it is clear that in Takhnyak, the long years of war and then drought took a significant toll on the wealth of the entire community.

Additionally, not all households have the same ability to rebuild after a drought or recover from a poor harvest year. During a poor harvest year, some households do not have enough stocks to avoid livelihood asset depletion or incurring debts in order to survive the winter. These households can be distinguished by lack of land, no donkeys, little livestock of any kind, widowed households, or those with adult males sent to work in Iran who do not send back remittances.

[8] Village focus groups noted that there was a drought in 1972 that resulted in death and migration of animals.

This last distinction is particularly important as average household size is small in Takhnyak. This means that the number of able-bodied working members is limited, leading to further constraints on alternative livelihood options and a high risk of rapid income reduction if something happens to the working member of the household. Thus, households with lower average numbers continue to be at particular risk of experiencing a loss of income due to death or injury of an able-bodied working member.

**CONCLUSION - LIVELIHOOD SECURITY SUPPORT**

Compared to other parts of Kohistan, Takhnyak village and the surrounding region are struggling for livelihood security. Within the last year Takhnyak households had benefited from the introduction of poppy crops. Still, it is not clear that this is a sustainable income source for these households in the future, because it still leaves them vulnerable to covariate risk inherent with agricultural activities.

Options for supporting socially-acceptable livelihood outcomes are presented in the table below. These options are conceptually arranged so that they illustrate how they would support five categories of livelihood assets.[9] Before initiating any of these projects the broader political and social contexts in which these communities work need to be further explored to understand if the projects are truly possible. Potential spill-over effects, including the constraints imposed by the seasonality of agricultural labor demands, deserve serious consideration.

[9] The five categories are taken from the DFID Livelihoods Framework model and the format of the table is based on work done by Adam Pain in his "Livelihoods Under Stress in Faryab Province" paper (2001).

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**Opportunities for Supporting Socially–Acceptable Livelihood Outcomes**

| OPPORTUNITY FOR SUPPORTING SOCIALLY ACCEPTABLE LIVELIHOOD OUTCOMES | | | | |
|---|---|---|---|---|
| **Capital base** | **Asset** | **Means** | **Group** | **Livelihood outcome*** |
| **Natural** | Pistachio forests | Revitalize pistachio forests | to be explored | Increased pistachio production for own consumption and for selling |
| **Physical** | Livestock | Set up veterinary services through MAAH or private vaccinations | livestock owners | Healthier livestock |
| | *Dand* | Create *dand* via food–for-work project | households in need of safety net | Less time spent on water collection, improved hygiene |
| | School building | Build school via food-for-work project | households in need of safety net | |
| | Community toilets | Promote building of toilets, mobilize community around sanitation issues | men and women | Improved human health, reduced risk of mortality |
| **Financial** | - | - | - | - |
| **Human** | Human health | Provide health services for local area or at a minimum train community health workers (CHWs) | all groups | Reduced risk of mortality, improved work outputs |
| | | Provide health, hygiene, and nutrition education | all groups | Improve dietary diversity; improve hygiene |
| | | Immunize children against measles | children | Reduced risk of mortality, improved work outputs |
| | Formal education | Support local school with teacher training | men and women | Increased motivation, sense of self-worth, productivity |
| | *Gilim* weaving skills | Set up looms for weaving | women/girls | Increased self-worth and income for women |
| **Social** | Already existing village social structures for group projects | Run projects through existing social structures | social structure involved | Strengthened social structures to support community in the future |
| | Safety net institutions at district level | Run food-for-work or cash-for-work projects through district level administration | local government | Strengthened government structures supporting political and economic processes |

*This column includes the livelihood outcome or at least the initial step that will link the activity to increased/improved livelihood outcomes.

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| Faryab Surveillance Unit | **National Surveillance System (NSS)**<br>**Transitional Islamic State of Afghanistan**<br><br>**Ministry of Rural Rehabilitation and Development**<br>**Ministry of Agriculture and Animal Husbandry,**<br>**and Ministry of Health** | **Kohistan District**<br>Zendan Sentinel Site<br><br>**Fall 2003** |
|---|---|---|

## Faryab Province




**SUMMARY FINDINGS: ZENDAN**

**Food Security**

- 18% of households said they did not have adequate food during the previous 4 months
- Wheat harvests in 2003 were disappointing compared to those of 2002
- 38% of households worried about where their food will come from
- Dietary diversity is a serious concern for all households in every season. Absence of pulses and nuts suggest vegetable protein intake is inadequate

**Risk to Lives**

- The mortality of children under five was above normal developing country thresholds
- Acute malnutrition of every category threatened children <5 and women of childbearing age
- Morbidity patterns for children <5 were high (ARI: 35.5%, watery diarrhea: 42.2%)
- Only 13.3% of children had been immunized against measles in a region where measles is the leading cause of death
- The closest health care is 12 hours away by foot
- Geographic isolation and political affiliations have deprived Zendan of vaccination, health education, and food distribution programs for the last decade

**Livelihood Security**

- No major shocks had affected the livelihoods of households in the Zendan area in the last year
- Households had benefited from the introduction of alternative cash crops
- 93% of households saw their income increase during the previous 4 months
- Very large proportions of households depended on agriculture for income, leaving them vulnerable to covariate risks

**Contents**



**What is the NSS?**

The National Surveillance System monitors trends in key indicators to predict early signs of change and deterioration in food security, nutrition, and livelihoods. In conjunction with complementary data collection systems, the NSS provides relevant data for prioritizing limited resources and designing programs.

**Methodology**

The NSS is based on a sentinel site system, in which provincial level ministries follow a rotating cohort of households over time. Sites are selected so that they mirror the majority of the communities with respect to agro-ecological features, economic activities, available services, and people in a given area known as a livelihood or agro-ecological zone. Information from the sentinel site may not be representative of every village in the zone because of the diversity of livelihoods in Afghanistan. However, it is likely that the data from one sentinel site can signal concern for other villages in the same zone (See Annex I for detailed information on methodology).


Save the Children.
The Faryab Provincial Surveillance Unit is supported by Save the Children USA and funded by DFID

## OBJECTIVES OF REPORT

This document has several objectives. First, it intends to report information coming out of the National Surveillance System standardized methodology. Therefore, this report provides:

- current information on household food security status in Kohistan district,
- information on risk to lives and nutritional risk to individuals in Kohistan district,
- information on the current household livelihood security situation in Kohistan district, specifically looking at current shocks to livelihoods and the ability of households to adapt to these shocks, and
- better understanding of the vulnerability and risk of communities and households in Kohistan in relation to issues of food security, mortality, health, and nutrition.

Secondly, this report provides baseline information on indicators that are unique to a local area but had never before been explored in the depth needed for use in guiding programs and policies. These indicators reveal:

- characteristics of household wealth in Kohistan district;
- the presence of malnutrition, morbidity, and mortality in rural communities in Kohistan district; and
- types of livelihood strategies employed in Kohistan district.

Finally, the report aims to suggest how government and other agencies can use this new understanding about livelihoods, vulnerability, and risk for designing and prioritizing program interventions and effective policies.

## LIVELIHOOD ZONES FOR KOHISTAN DISTRICT

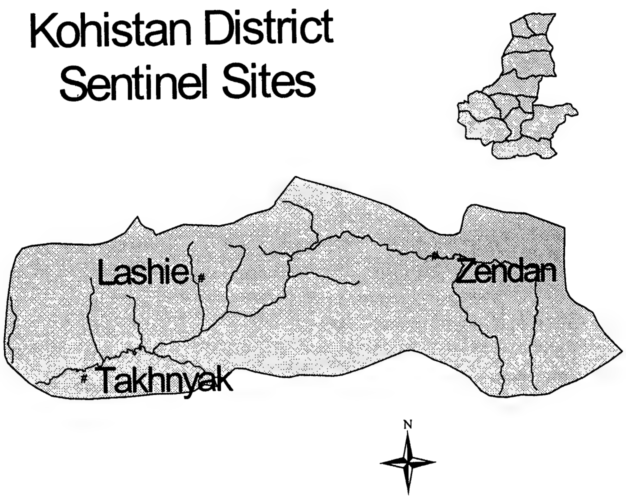
Kohistan is a rural district found in southeastern Faryab Province. The Murghab River flows from northeast to southwest, cutting the district in half. The altitude ranges between 1000 to 3000 meters above sea level. Kohistan consists of rolling upland plains cut by steep incised valleys. The plains are used for agriculture or grazing, while the steep valleys have water flowing through them that supports limited agricultural irrigation. The meaning of the word Kohistan in Dari is mountainous land, referring to the Tirkeband-e Turkestan mountain range running through the region.

Lawlash is the district center, but in practice district administration is divided between Bandar (western Kohistan) and Lawlash (eastern Kohistan), each with its own governor. Traditionally, the Bandar governor has had links with the Jumbesh political party and the Lawlash governor with the Jamiat-i Islami party. Recently, the leader of the eastern part of Kohistan has switched sides and is now supporting Jumbesh. The governor in Bandar is now the official governor while the leader of the east has taken up the military leadership of the district. The population of Kohistan is dispersed, with 2 main population centers in the northwest. Other populated areas lie along the Murghab in the southwest and east. Accurate information on the numbers of villages, households, and inhabitants are not available, however estimates suggest that Kohistan has just over 100 villages, with 46 in Lawlash territory and 56 in Bandar. Kohistan can be divided into 3 distinct livelihood zones. A sentinel site was chosen from each area and this report includes information on the sentinel site from Zone 3, Lashie (see map).

**Zone 1: Rainfed Land (38 villages): Takhnyak**
Zone 1 encompasses 3 clusters of villages in the southwestern section of Faryab. These villages are mainly found on high, flat, rainfed plains, where the main crop is wheat.

**Zone 2: Grazing Land and Irrigated Agriculture (11 villages): Zendan**
Zone 2 covers the northeastern part of Kohistan. Livestock is the main source of income for these villages, but they also have intensively irrigated small-scale agriculture located along the riverbeds.

**Zone 3: Mixed Irrigated and Rainfed Land (43 villages): Lashie**
Zone 3 covers the northern section of Kohistan. Many springs feed irrigation systems, allowing for small plots of intensive agriculture. The villages are surrounded by areas of rainfed land, which are used for growing wheat.



## ZENDAN GENERAL INFORMATION

### Background Geography

Zendan is the sentinel site for the villages located in the eastern section of Kohistan district. Zendan sits at an altitude of 2192 meters and the winters tend to last for more than half the year. The village has grown along both banks of a northern tributary of the Murghab River within an isolated valley. Zendan's main market is located 70 kilometers to the north and west in Gorziwan district.

Zendan means prison in Dari. The name may be related to a cave that was used as a prison many years ago by a powerful man called Mirzangi. The ruins of Mirzangi's castle are about an hour away from Zendan.

Elders of the village said that the first families came to Zendan in 1872. The people of Zendan identify themselves as Aimak and speak Dari. The village currently has 4 mosques and 300 households. Household size in Zendan is relatively small, with an average of 5.8 members. Based on other survey work and current Afghanistan Central Statistical Office census data, the average household size in Afghanistan is about 6.1. In Zendan, better-off households are smallest and medium-income households have the most members. Usually, better-off households in Afghanistan have the most family members.

| Average Household Size | |
|---|---|
| **Better-off** | **5.0** |
| **Medium-income** | **6.3** |
| **Poor** | **5.7** |
| **All households** | **5.8** |

Information for this report was collected in 2 surveys. The first one was a baseline surveillance data collection in November 2002 and the second one was a survey using the standardized national food security and nutrition surveillance questionnaires in November 2003. Most of the information in this report is based on information that was collected during the November 2003 survey. During this survey, male and female focus group interviews and 40 household interviews were completed. The households interviewed in 2003 were the same 40 households interviewed in 2002.

### Administrative System and Political Affiliations

Since 1990, the people in the Zendan area have suffered greatly because of the factional fighting in the region, located along a north-south smuggling route. The drought between 1997 and 2002 made conditions even worse. People said they did not have any food at that time and that to survive they hunted for wild plant roots. Fighting of 1998 was the worst. Different groups of soldiers passed through again and again, and everything in Zendan was looted at least 5 times.

This part of Kohistan was a pocket of resistance loyal to the Northern Alliance during Taliban times. In the Taliban years the region did not receive services provided to other parts of Kohistan, such as immunization, health education, or food distributions. After the Taliban withdrawal in 2001, Zendan village supported the Jamiat-i Islami party, while the rest of Kohistan and nearby Gorziwan support Jumbesh. This had recently changed when their leader decided to switch parties. The area is now considered in support of Jumbesh. After all the years of roaming soldiers, people in the Zendan area are suspicious of outsiders and many households have guns in their homes.

The *kariador* or village leader and the *shura* handle village-level decisions. The people of Zendan have had no administrative links to the district center in Lawlash for 25 years. They do not go to the district governor to resolve disputes that cannot be settled in the village, as other Afghan villages do. However, they do pay taxes based on wheat harvest to the governor in Lawlash.

### Social Institutions

Although the survey did not measure community social structures directly, it asked about certain behaviors that reflect the existence of a community's social networks and support systems. Like many villages in the region, Zendan has an active community mobilization process that organizes community work projects.

During the previous 4 months, 18% of the households had taken loans to pay for weddings, asset purchases, or daily living expenses. The relationships between lenders and borrowers are not entirely clear, but there is an active system of lending that provides support for some households during certain years or seasons. Additionally, households said they did keep the Islamic practice of *zaqat* with better-off households giving a certain portion of their income to poor households. In Zendan, 10% of the households had received *zaqat* or other gifts as an income source in the previous 4 months. Finally, 83% of households had borrowed food from a relative to make a meal, which also suggests strong social networks in this area.

**Community Facilities**
There is no school or *madrassa* in the village for either boys or girls. However the local *mullah* provides religious education, with a focus on reading the Quran, to boys. There are no health services in the village, besides traditional healers. The nearest health facility is in Sarchekan in Gorziwan district 12 hours away on donkey or foot, 2 or 3 hours by vehicle. Health facility details will be discussed later in the Risk to Lives section of this report.

**Local Perceptions of Socioeconomic Status/Wealth**
The community divided households into 3 different wealth groups, or socioeconomic categories. The better-off category contained 10% of the 40 households, the medium-income had 30%, and the poor households made 60%. The Wealth Group table lists typical characteristics of each category. These wealth groups will be used throughout the report to clarify the relative differences in food security, risk to lives, and livelihood security.

| **Assets and activities** | **Wealth Group** | | |
|---|---|---|---|
| | **Better-off (10%)** | **Medium-income (30%)** | **Poor (60%)** |
| **Male group perception** | | | |
| Land | 40-50 *jeribs* | 10 *jeribs* | 0-5 *jeribs* |
| Sheep/goats | 40 | 20-25 | none |
| House | has | has | has |
| Donkey | 2 | 1 | 0 |
| Oxen | 2 | 1 | none |
| *Gilim* | 4 | 2 | 0 |
| Employment | people work for him | does own work | works for others |
| *Zaqat* | gives | gives | receives |
| Wedding expenses | 10,000 USD | 8,000 USD | 6,000 USD |
| **Female group perception** | | | |
| Land | 20 *jeribs* | 10 *jeribs* | 2.5 *jeribs* |
| Sheep/goats | 50 | 10-15 | 1-5 |
| Oxen | 2 | 1 | none |
| House | has | has | has |
| Donkey | 2 | 1 | 0-1 |
| *Gilim* | 4 | 2 | 1 |
| Employment | people work for her | does her own work | works for others |
| *Zaqat* | gives | gives | receives |
| Car | own | 0 | 0 |
| Wedding expenses | 10,000 USD | 8,000 USD | 6,000 USD |

** Pots are used for both cooking and carrying water*

**Children's perceptions of distinctions between better-off and poor households**

**Better–off households**
*A better-off household has more irrigated and, rainfed land. They have goats, sheep and more food. They own donkeys and they kill animals during Eid Qurban. They give zaqat and their family members wear expensive clothes.*

**Poor households**
*A poor family has less land or they don't own land. They don't have enough food and their family members wear old clothes. They work for other people*

## ZENDAN FOOD SECURITY

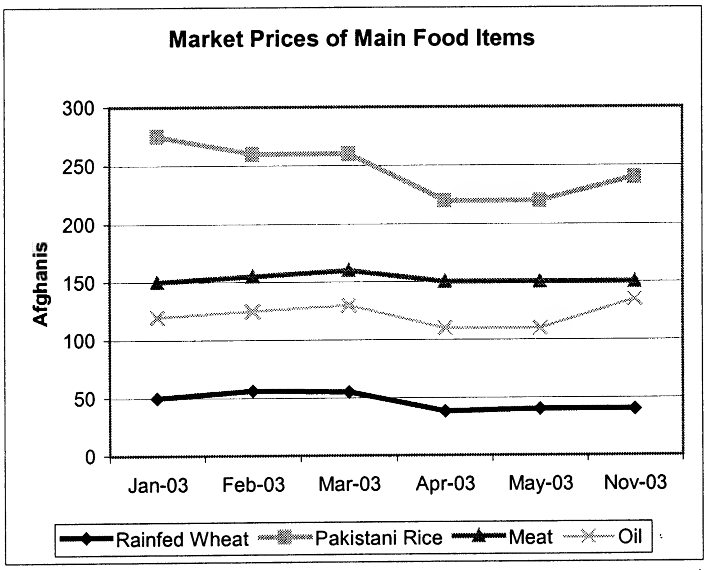
Certain indicators reveal information about access, availability, and quality components of food security. Monitoring these indicators can track changes in food security at a sentinel site, identify households' current food security status, and provide information on the nature of any food insecurity.

### Market Access

Tagabshan and Sarchakhan in Gorziwan District are the closest food markets to Zendan and other villages in the same zone. There is road access to the Tagabshan market from Zendan and it takes 3 or 4 hours to get there by vehicle. People usually go there by foot or donkey which takes 8 hours. Because of the distance to the market, people usually stay overnight in Tagabshan or nearby and have to pay for accommodation if they do not have relatives in the area. It costs about 700 Afghanis (Afs) for a return trip to the market. The people of Zendan go to Tagabshan to trade livestock, wheat, and other crops for food and non-food items. Transactions in the market place usually take place in cash. Before the drought they also sold *gilims* at the market for cash. People from this area sometimes travel south 2 days by donkey to the market in Chaghcharan Sarchakhan, the capital of Ghor Province.

| Market locaiton | Time to Reach Market | | Round trip cost | Market accessible in winter and spring? |
|---|---|---|---|---|
| | Vehicle | Foot | | |
| Tagabshan | 4 hours | 8-10 hours | 700 Afs | no |
| Chagcharan Sarchakhan | 8 hours | 2 days | 1,000 Afs | no |

In the past, traders traveled the region exchanging their goods for local products of wheat, cumin, animal skins, *kurk*, and *krut*. Women often participated in the transactions with the traders. Because the price of wheat had decreased and the amounts of local goods for sale had declined, the traders no longer visited the region. Since households had to go to Tagabshan to sell and purchase items, women no longer had a role in these transactions because they rarely went to market at all.




### Market Prices

Most households in the Zendan area rely on the Tagabshan market for purchase of food items. They purchase rice, oil, soap, tea, and matches from the market, but some households will sometimes purchase potatoes and onions.

Based on the data in the graph on the left, the prices of meat stayed fairly stable. Wheat increased slightly and then fell a bit. Oil and rice followed similar trends of falling then stabilizing from February to May.

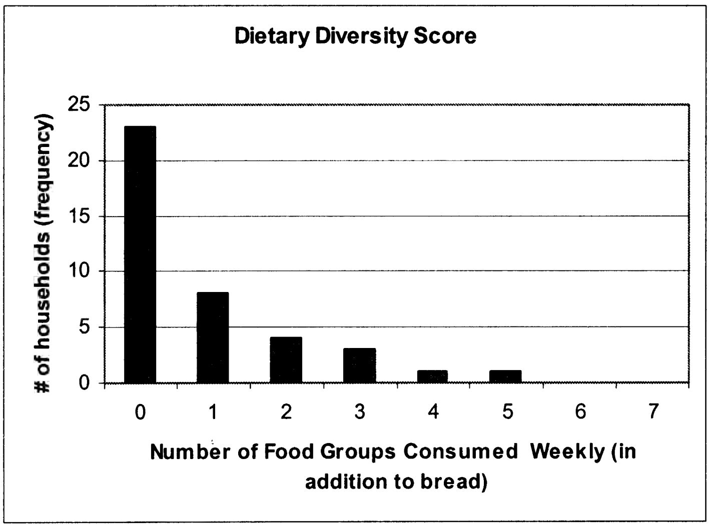
### Dietary Diversity and Dietary Quality

Dietary diversity is a primary component of food security. Previous studies have shown that dietary habits in Afghanistan are not very diverse and consequently people are at risk of micronutrient deficiency disorders and related diseases. It is not entirely clear how dietary preferences and available food types interact to determine household dietary patterns. To better understand the quality of diets in the previous 4 months, surveyors asked about the frequency of eating foods from different food groups.

These results were used to create a dietary diversity score to capture dietary quality and to monitor it over time. The diversity score is calculated by attributing a score of 1.0 to each food group that was eaten at least once weekly. Thus, households with a higher diversity score have a more diverse diet. Repeated surveys throughout the country indicate that most households consume cereals on a daily basis and thus cereals were not included in the diet diversity score. Earlier baseline surveys in the area suggest that most households consumed oil/fat and so this was not included in the score either. The following table shows that people in Zendan have a low dietary diversity score. Most people scored zero, while a few scored 1 and 2.

The following table shows average food group consumption frequency during the previous 4 months, excluding Ramadan and festivals, by wealth group. There were no wide distinctions between any of the wealth groups and no real trends according to income.

All households ate meat about once a month. Medium-income households ate milk products more than 3 times a month while the better-off and poor ate them around twice a month. Better-off households ate eggs once a week, while medium-income families ate them 3 times a month and the poor ate them once or twice a month. They all ate leafy green vegetables around once a month and other vegetables every week or two. The better-off ate fruits 2 or 3 times a month and the rest ate fruit less than once a month. None of the households ever ate pulses so there were no complementary amino acids available for Zendan households' cereal intake to produce complete proteins.




As data were not collected on quantities consumed, it is not possible to make statements regarding sufficiency of vitamin and mineral intake. Areas of potential concern would be: 1) vitamin A from animal sources, 2) beta-carotene from plant sources, 3) calcium from milk-related products and water, 4) iodine from salt, and 5) vitamin C from fresh plant sources.

**Average Frequency of Food Group Consumption by Wealth Group**

| Wealth group | Meat | Milk, yogurt, *krut*, etc. | Eggs | Pulses | Leafy green vegetables | Other vegetables | Fruits |
|---|---|---|---|---|---|---|---|
| Better-off | 2.8 | 2.8 | 4.0 | 1.0 | 2.5 | 4.0 | 3.3 |
| Medium-income | 2.8 | 3.3 | 3.2 | 1.0 | 1.7 | 3.3 | 1.8 |
| Poor | 2.3 | 2.5 | 2.5 | 1.0 | 1.5 | 3.0 | 1.4 |
| All households | 2.5 | 2.7 | 2.8 | 1.0 | 1.7 | 3.2 | 1.7 |

1 = Never eat
2 ≤ Once a month
3 = 2 to 3 times a month
4 = Once weekly
5 = Twice weekly
6 = 3 to 5 times weekly
7 = Always eat

**Crop Production**

Rural and semi-rural areas in Afghanistan are still highly dependent on subsistence agriculture for their own food, so monitoring annual crop yields and amounts planted can help predict the food security situation of households. In Zendan, 80% of households produce crops and 63% regard it as their main source of income.

**2003 Harvest**

In 2003, 58% of the households planted irrigated wheat, an increase over the 52.5% planting it in 2002. The average amount of irrigated wheat harvested per household for the 2003 harvest season was 63 *seers*, which was lower than the 91 *seer* average in 2002. The lower yields of 2003 were consistent through each wealth group. In 2003, 34 households had planted rainfed wheat, 4 more than in 2002. The lower yields in 2003 persisted for rainfed wheat. In 2003, 3 households planted barley, one quarter the 2002 number of 12, and the decreased yield trend persisted.

| **2003 and 2003 Harvests** (1 *seer* = 7 kg) | **Irrigated wheat** (*seers*) | | **Rainfed wheat** (*seers*) | | **Barley** (*seers*) | |
|---|---|---|---|---|---|---|
| | **2002** | **2003** | **2002** | **2003** | **2002** | **2003** |
| Better-off | 116 | 72 | 111 | 53 | 97 | 0 |
| Medium-income | 86 | 66 | 124 | 138 | 51 | 30 |
| Poor | 84 | 53 | 91 | 83 | 58 | 30 |
| All households | 91 | 61 | 110 | 96 | 64 | 30 |
| *# of households* | 21 | 23 | 30 | 34 | 12 | 3 |

**Food Security Perceptions**

Household perception of food security is an important indicator of current food security status. Only 2 households considered the food situation worse than 4 months earlier while 3 households considered it worse than a year earlier.

However, 18% of households felt they has not had enough to eat in the previous 4 months. Medium-income households made up 14% and 4% were poor. A total of 38% had worried once a week about where their food was coming from. Of these 15 households, 10 were poor households and 5 were medium-income households. Only 1 household expected the situation to be worse in the next 4 months, but 29 households answered they did not know if it would be or not.

| Perception of Food Security Indicators | % of 40 households |
|---|---|
| Consider food situation to be **worse** in comparison to 4 months ago | 5 % |
| Consider food situation to be **worse** than 1 year ago | 8 % |
| Considered food situation to not be sufficient at time of survey | 18 % |
| Worried where their food was coming at the time of survey | 38 % |
| Expect the food situation to be **worse** in the next 4 months | 3 % |

**CONCLUSION: CURRENT FOOD SECURITY STATUS**

The plentiful 2002 rain and increased yields generated an optimism that the 5 year drought was at an end and recovery would be swift. The disappointing yields of 2003 indicate that recovery may be slower than hoped. The people of Zendan have a very limited diet. They need to grow or purchase peas and beans to complement the partial proteins of their cereal intake. Many families worried frequently where their food would come from and a significant number thought they did not have enough to eat in the previous 4 months.

## ZENDAN RISK TO LIVES

Indicators monitoring the risk to lives at sentinel sites can signal regions where individuals are more vulnerable and reveal underlying causes of increased risk. These indicators help gain better understanding of relationships involving nutrition, sanitation, morbidity, and mortality.

**Mortality Indicators**

The crude mortality rate (CMR) for Zendan was 0.43 deaths/10,000 people/day. This rate was just under the normal developing country level of 0.5 deaths/10,000 people/day. The mortality rate for children <5 was 1.54 deaths/10,000 people/day, above the normal developing country rate of 1.0 deaths/10,000 people/day.

Of all deaths among women of childbearing age in Afghanistan, 48% can be attributed to complications during pregnancy or childbirth. Additionally, newborns only have a 25% chance of survival if their mothers die during childbirth and most die within the first month due to malnutrition.[1] Because of the high rate of maternal and child mortality in Afghanistan, this study also looked at the number of children who had a skilled birth attendant present at delivery as a proxy for risk to lives of both the mothers giving birth and the new infants. Only 1 child was recorded as being born in the previous 4 months and this child did not have a skilled birth attendant present at birth.[2]

**Morbidity Indicators**

The morbidity indicators included in the surveillance system are associated with a risk of death and are the primary causes of death for children <5 in Afghanistan. The incidence of watery diarrhea among children <5 in Zendan was 42.2%, high enough that diarrhea should concern the village. The presence of bloody diarrhea in 2.2% of children<5 is not a concern for the people.

The survey found that 35.6% of children <5 suffered from acute respiratory infections (ARI). Past surveys in this area note a higher incidence of ARI during the winter months and low incidence during the summer months. Since this survey took place at the beginning of winter, the cooling weather could have been partially responsible for this higher figure. Poor hygiene practices and the lack of adequate health and sanitation facilities also enhance children's susceptibility to ARI.

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[1] MoH Afghanistan/UNICEF/CDC, 2002

[2] Because this question was only asked to female caregivers who had birthed a child in the last 4 months, it did not include stillbirths or children who had died during the last 4 months, so there actually may have been more births in the site in the last 4 months.

| Risk to Lives Indicators | % |
|---|---|
| **Mortality indicators**[3] | |
| Crude mortality (deaths/10,000/day) | 0. 43 |
| Under 5 mortality (deaths/10,000/day) | 1.54 |
| Births in last 4 months attended by a skilled birth attendant | 0.0 |
| **Morbidity indicators** | |
| Children < 5 years with watery diarrhea (two week period) | 42.2 |
| Children < 5 years with bloody diarrhea (two week period) | 2.2 |
| Children < 5 with ARI (two week period) (n=24) | 35.6 |
| Children between 6 and 59 months with measles vaccination[4] | 13.3 |
| **Child anthropometric status (WFH % of median and MUAC)** | |
| Children with severe and moderate acute malnutrition, and edema | 11.4[5] |
| Children between 6 months and 59 months with edema | 2.2 |
| Children between 6 and 59 months with severe acute malnutrition | 4.5 |
| Children between 6 and 59 months with moderate acute malnutrition | 4.5 |
| Children between 1 year and 59 months with a MUAC under 13.5 cm | 27.3 |
| Children between 1 year and 59 months with a MUAC under 12 cm | 2.3 |
| **Adult women anthropometric status** | |
| Reproductive age women (15-49 years) with a MUAC <23.0 cm | 35.9 |
| Reproductive age women (15-49 years) with a MUAC <21.0 cm | 5.1 |
| **Micronutrient deficiencies** | |
| Households with iodized salt (only includes households with salt) | 0.0 |

According to official statistics, measles vaccination coverage in Afghanistan is 95%. The measles vaccination rate in Zendan was 13.3%. The low measles vaccination coverage is worrying because the primary cause of death in the total population is measles.

**Children's Nutritional Status**

Using weight for height (WFH) percentage of the median, the global acute malnutrition (GAM) prevalence included 11.4% of children between 6 and 59 months. This breaks down to 2.2% suffering from edema and 4.5% with severe acute malnutrition (<70% WFH). Also 4.5% suffered moderate acute malnutrition.

Children are classified as moderately malnourished by middle upper arm circumference (MUAC) measurements <12.0 cm and are potentially at risk of death. About 3% of the children in the survey were in this range and 30.0% were at risk of malnutrition with MUACs <13.5 cm. These figures, along with the WFH results, suggest that children's acute malnutrition should concern the village.

**Adult Women's Nutritional Status**

Low MUACs in women of childbearing age have been associated with high maternal and child mortality making it an important indicator for increased risks to adult women's mortality. In Zendan, 35.9% of women had a MUAC <23.0 cm and 5.1% of women had a MUAC <21.0 cm. Additional information on cut-off standards needs to be collected in order to better interpret the implications of the percentage of women falling below 23.0cm for a MUAC.

**Micronutrient Deficiencies: Iodine**

Presence of iodized salt in the house is a proxy for use of it and for iodine deficiency. Iodine deficiency is linked to the following disorders:

- In all individuals: goiter and loss of energy
- In pregnant women: miscarriages, stillbirths, and mentally retarded children
- In children: impaired mental and physical development, mental retardation, physical deformities, and cretinism.

No Zendan households had iodized salt. Iodized salt is not sold in Tagabshan market where people in this area obtain their salt.

**Health Facilities**

The following table lists the health services available to the people in Zendan. A traditional birth attendant is the only health service within the community. The closest health facilities are the private doctor, skilled birth attendants, and the services of a comprehensive health center (CHC) found in Sarchakhan, the center of Gorziwan District. It takes around 750 Afs to reach Sarchakhan, which is 4 to 5 hours away. The CHC is not supported by any NGO and the MoH is not able to provide sufficient

[3] The mortality rate was calculated by collecting information on village deaths from the community *mullah*. This method of calculation is being piloted for the Afghanistan context and may be misleading when comparing the figures to standardized WHO mortality rate cut-offs. Thus, the mortality rate should be interpreted with caution until the pilot finding results are finalized.

[4] While clinics start measles vaccination at nine months, campaigns in remote areas such as Kohistan cover children six months and over.

[5] Malnutrition levels are reported based on a small cohort sample and should only be interpreted over time in order to understand shifts in nutritional status. Because the sample was randomly selected, these shifts are meant to reflect shifts in both the whole sentinel site populations as well as the whole livelihood zone population.

supplies to it. Patients therefore buy prescribed drugs in the market. Trips to Gorziwan district are difficult if not impossible in the winter months. Other alternatives for health care require a trip to Belcheragh Center or Maimana, the provincial capital. It is a 7 hour trip by vehicle and costs around 5000 Afs if a private car is rented. Community members said that only better-off households would travel to Maimana for care and only in extreme cases.

| Health Facilities and Services | Facility / service provider location | Time to reach facility | Round trip cost (Afs) | Access to facility | Facility accessible in winter and spring? |
|---|---|---|---|---|---|
| Health Posts | none | -- | -- | -- | -- |
| Basic Health Center | none | -- | -- | -- | -- |
| Comprehensive Health Center | Sarchakhan | 4-5 hours | 750 | everybody | no |
| Hospital | Maimana | 7 hours | 5000 | everybody | no |
| District Hospital | Sarchekan | 4 hours | 750 | not functional | no |
| Traditional healers/birth attendants | Zendan | < 1 hour | 0 | everybody | yes |
| Skilled birth attendant | Sarchakhan | 4-5 hours | 750 | women | no |
| Private doctor | Sarchakhan | 4-7 hours | 750 | everybody | no |

Women clearly identified health care as their number one request for outside assistance and men listed a need for health care in the village both in focus groups and in household level interviews.

**Water Sources for Household Use**

The people of Zendan obtain water for household use from the river and from springs. The main source of drinking and bathing water is the Murghab River, which runs through the middle of the village. Men and women spend between 5 to 20 minutes fetching water from the river. The local springs, which are salty, are about 30 minutes walk from the village center and are used by a small number of people in the village. The water quality and quantity in the river and springs were the same in 2002 and 2003.

| Drinking Water Source (in order of use) | Time used to collect water | Quality Δ since last year | Quantity Δ since last year |
|---|---|---|---|
| **River** | <1 hour | same | same |
| **Spring (salty)** | <1 hour | same | same |

**Sanitation Facilities**

Most villagers use the areas around their houses as toilets or nearby fields while others use vault latrines and traditional latrines. Surveyors did see uncovered feces in areas where children played and everyone walked, noting a potential link to disease.

**CONCLUSION: RISKS TO LIVES**

Morbidity patterns for children <5 were high and can be linked to the high mortality in the area. The low measles vaccination coverage rate is very troublesome since measles is the major cause of death in Zendan. Acute malnutrition rates for children <5 and maternal malnutrition rates were worrying.

Health services are difficult to access for Zendan, both in terms of distance and money and are also very limited. The area was deprived of services during Taliban times because it successfully resisted them. Therefore no immunization, health education, food distribution, or other support efforts had reached Zendan in nearly a decade.

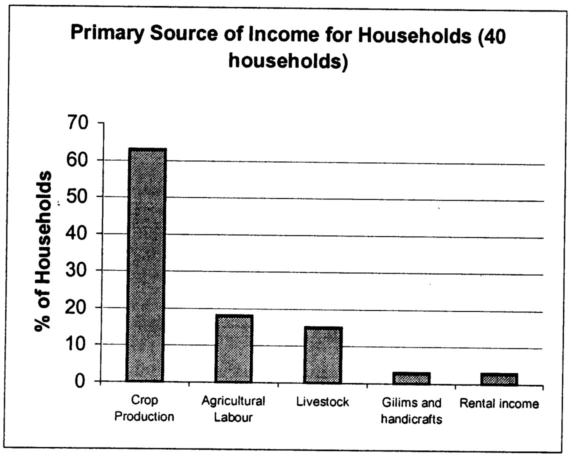
The people of Zendan have good access to water, in terms of both quantity and quality, since this part of the Murghab has its headwaters in nearby mountains. Sanitation facilities are not good and are most likely the cause of diseases in the area. The isolation experienced by communities in the area over the last decade has kept them from health and nutrition education.

## ZENDAN LIVELIHOOD SECURITY

Livelihood security indicators focus on the livelihood strategies of households within a community. They reveal livelihood assets related to particular income sources and expose current shocks to livelihood sources as well as households' abilities to cope with these shocks. Analysis of these indicators could provide agencies with sufficient information to decide whether there is a need to respond to a current shock. Finally, examination of coping strategies can identify characteristics of particularly vulnerable households.

## Livelihood Strategies

Crop production was the primary source of income for 63% of households in Zendan during the previous 4 months. Agricultural labor provided primary income to 18% of households. Six households, 15% of the total, listed livestock as their primary income source. *Gilim* weaving and handicrafts provided primary income to 1 household and 1 household listed rental income as its main income source.




The following table shows the proportion of households engaged in each of the different income activities. It is intended to illustrate the relative importance of the different livelihood strategies to the community.

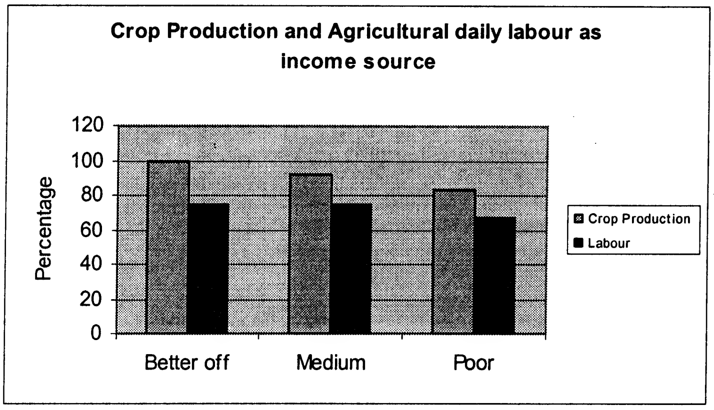
Crop production supported 88% of households and agricultural day labor supported 70% of households from July through October 2003. Livestock, which includes the sale of the products as well as the animals, also provided income to 88% of Zendan households. Wool spinning supported 53% of households. Other sources of income included handicrafts, *gilim* weaving, *zaqat*, gleaning, gifts, loans, wage labor, micro-business, rental income, collecting natural resources, and mortgaging property.

| **Household Income Activities** | **% of households with income earned by men and women from activity cited at left** (per men) | **% of households with income earned by women from cited activity** (per women) |
|---|---|---|
| **Agricultural production** | 88 | 58 |
| **Agricultural labor** | 70 | 55 |
| **Livestock** | 88 | 73 |
| ***Gilims* and handicrafts** | 28 | 13 |
| **Wool spinning–wage labor** | 53 | 75 |
| **Shops** | 2.5 | - |
| **Micro-business** | 2.5 | - |
| **Informal wage labor** | 2.5 | - |
| **Rental income** | 2.5 | - |
| **Loans** | 18 | 5 |
| **Begging** | 2.5 | 2.5 |
| **Gifts/tithes/gleaning** | 10 | 10 |
| **Collecting natural resources** | 8 | 45 |
| **Mortgaging land, house, shop** | 3 | - |

Data on women's income activities uncover the role of women in current livelihood strategies and provide information that men may have left out or not have been aware of when commenting on household income. A full 73% of the women in the village considered livestock as an income source and they included the products that they use within their own households. Other sources of income considered by women include agricultural labor, handicrafts, *gilim* weaving, wool production, sale of natural resources, loans, begging, and the social support systems of gifts, *zaqat*, and gleaning.

### Crop Production and Agricultural Day Labor

Crop production and agricultural labor are an important source of income for the majority of households in Zendan. The graph on the right shows no large differences among wealth groups regarding household participation in either income earning activity.




All of the better-off, 93% of medium-income, and 83% of poor households produced crops. Irrigated and rainfed wheat and barley were the main source of income earning crops for Zendan households. These crops are produced for household consumption and for trade. Every year a portion of the harvest is reserved to provide seed for the next year's planting and to reduce vulnerability to future shocks.

**Crop Seasonal Calendar**

The table below shows the crop calendar for the main food staples in the area. There is no winter planting in Zendan and the spring planting occurs in April and May. The wheat and barley are then harvested in August and September.

| Crop Calendar | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rainfed wheat<br>Irrigated<br>Barley | | | | Spring planting | Spring planting | | | Harvest | Harvest | | | |

Legend: Spring planting | Harvest | Winter planting

**Crop Production Livelihood Assets: Land Ownership, Draft Animals, and Human Capital**

Land ownership is the key livelihood asset for agricultural production. Land ownership patterns are listed in the following table. Community leaders claimed that some land records were kept in Maimana, some records were given by village leaders, and some people did not have land ownership records.

In Zendan, 95% of households owned land. The average amount of land owned by different wealth groups varies only slightly in Zendan. Better-off households owned an average of 9 *jeribs*, medium-income households owned an average 8.3 *jeribs*, and poor households owned an average 7.3 *jeribs* of land. In Zendan, only 3% of households were sharecroppers and did not necessarily take home the entire amount that they physically harvested.

| Land Ownership | All households | Better-off | Medium-income | Poor |
|---|---|---|---|---|
| Households owning land (%) | 95% | 100% | 100% | 91.7% |
| Average amount of land owned *(jeribs)* | 7.8 | 9 | 8.3 | 7.3 |
| Households owning rainfed land (%) | 85% | 100% | 83.3% | 83.3% |
| Average amount of rainfed land owned (*jeribs*) | 6.8 | 7.3 | 7.1 | 6.6 |
| Households owning 1 or more draft oxen (%) | 70% | 100% | 91.7% | 54.2% |

Draft oxen are extremely important for crop production in Zendan. A full 70% of households owned at least 1 ox, with 100% of better-off households, 91.7% of medium-income households, and 54.2% of poor households owning at least one. In the past year some households had been able to buy oxen, suggesting that the economic situation in the area was improving.

Human capital is also an important component of agricultural production in Zendan, with both women and men working on the farms. The small household size in Zendan suggests limited numbers of able-bodied workers in each household. This indicates that in Zendan household livelihoods are vulnerable to the loss of any wage earner.

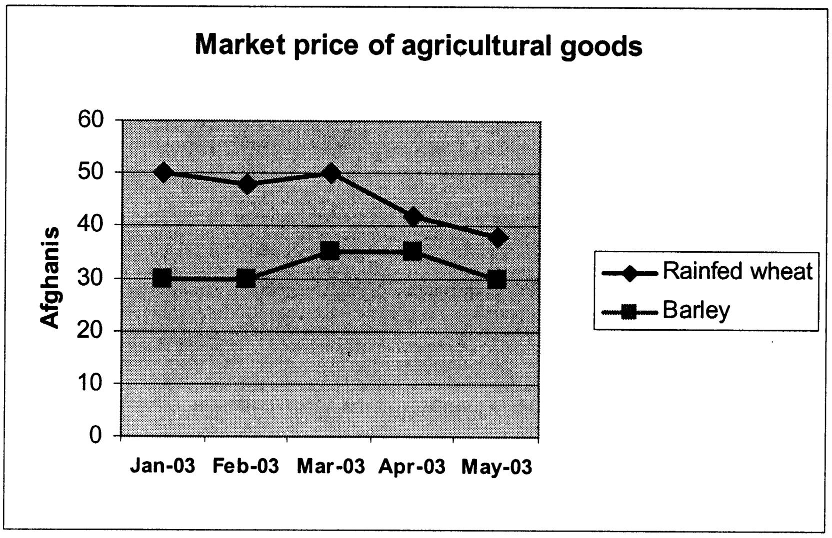
**Shocks to Agricultural Yields**

Altogether, 23.5% of the households producing rainfed wheat had lost between 20% and 50 % of their crops and 8.8% of households had had more than 50% of their crops destroyed by smut and lack of rain. None of the households reported more than 50% damage to their barley but 17.4% of the irrigated wheat farmers had lost between 20% and 50% of their crop to insects. These data suggest that crop damage was sporadic but may have contributed to the disappointing harvests of 2003. Male focus groups did mention their concern about crop damages in the previous 4 months.

| Crop Destruction | Households with 20% to 50% of crop destroyed | Households with >50 % of crop destroyed | Causes of destruction |
|---|---|---|---|
| **Rainfed wheat** | 23.5% | 8.8% | Smut; lack of rain |
| **Irrigated wheat** | 17.4% | 0 | *shakarak*, *surkhi* |
| **Barley** | 0 | 0 | -- |

**Market Prices of Agricultural Goods**

Due to time constraints, price data from Tagabshan market were only collected during the first months of 2003. From January to March 2003, the price of wheat was fairly constant at 50 Afs per seer then in April it decreased to 42 Afs. The price of barley was 30 Afs per seer from January to February 2003, in March and April it increased to 35 Afs, then fell in May.




Farmers in this area probably focused on poppy production during the 2003 planting season. Considering the low wheat prices compared to the high return from poppy production, these farmers will increasingly turn to poppy production as a livelihood source. People in Zendan started planting poppies after the drought period, looking for quick returns to build their livestock and agricultural assets. This was a natural choice because of their isolated location on the throughway for illegal produce to the south.

In the past year, around 70% of households had planted 1 *jerib* of poppies. Each *jerib* produced between 1 to 5 kg of raw opium. One kilogram of raw opium earned anywhere from 6,000 to 15,000 Afs, depending on when and to whom they sold the product, earning households anywhere between 120 to 1,500 US dollars. Clearly households intended to invest in poppy production in 2004 and anticipated the arrival of new seeds able to yield at least 6 kg of raw opium per *jerib*.

**Livestock**

In Zendan, 15% of households had received their primary source of income from livestock and livestock products in the previous 4 months. A total of 88% of households and 73% of women claimed it as one of their income sources. Besides selling the livestock at the market, and using the produce for home consumption, the households sold the *kurk*, *krut*, and *qaraqul* skins in the market.

| Livestock Ownership | Goats | Sheep | Draft oxen | Bulls | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|---|
| Households with asset (%) | 40% | 47.5% | 70% | 5% | 22.5% | 10% | 90% |
| Average # of assets owned | 6.5 | 10.9 | 1.3 | 1.5 | 1.9 | 1.0 | 1.2 |

Almost all households owned donkeys, which are extremely important to households in this region for carrying people and agricultural goods to the market. Only 40% of households claimed to own goats and 47.5% claimed to own sheep.

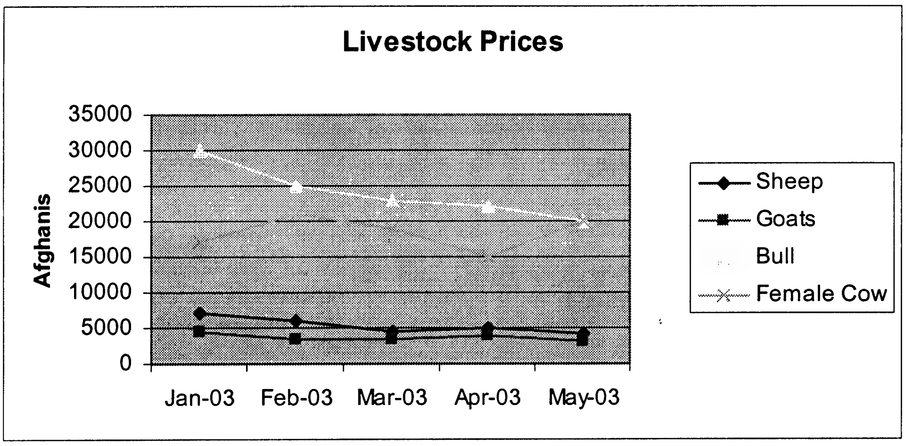
Data suggests that households could be recovering from the drought. The following table shows patterns of livestock ownership in a normal year, in the drought year of 2002, and in 2003. Interestingly, ownership of cows was decreasing while ownership of status-symbol horses increased.

| Livestock Assets over Time | Goats | Sheep | Draft oxen | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|
| Households with asset (%) in normal year | 90% | 95% | 95% | 88% | 63% | 95% |
| Average # of assets owned | 14 | 40 | 1.6 | 2.5 | 1.1 | 0.7 |
| Households with asset (%) in 2002 (drought year) | 35% | 38% | 70% | 33% | 7.5% | 90% |
| Average # of assets owned | 5.2 | 7.6 | 0.5 | 2.2 | 1.0 | 1.2 |
| Households with asset (%) in 2003 | 40% | 48% | 70% | 23% | 20% | 90% |
| Average # of assets owned | 6.5 | 10.9 | 1.3 | 1.9 | 1.0 | 1.2 |

**Livestock Disease**

When asked about the current disease status of their livestock, the village leaders reported that 26.7% of their sheep and goats had been affected by pasterellosis over the last 4 months, while 100% of their cattle had been affected by foot and mouth, a deadly and highly contagious disease. It is highly unlikely that 100% of their cattle suffered from foot and mouth, but it is likely that foot and mouth is a problem for both large and small ruminants because it seems endemic to the area. Livestock owners in Zendan and the surrounding area have not had their animals vaccinated and thus their livestock are at risk of disease outbreaks.

| Livestock Disease | Cattle and oxen (% affected) | Sheep and goats (% affected) |
|---|---|---|
| **Pasterellosis** | -- | 26.7% |
| **Foot and mouth** | 100% | |




**Livestock Prices**

Due to time constraints price data was only collected during the first months of 2003. Data show that livestock prices through the beginning of 2003 were stable for sheep and goats, prices of bulls decreased, while prices of cows varied.

**Grazing Land and Access to Water**

According to village leaders, access to grazing land in Zendan had remained the same in the previous 4 months and the productivity of the grassland was the same as the previous year. Likewise access to water for the animals had remained satisfactory, as in the previous year. Several households had started to use grazing land for poppy cultivation so access to grazing land had decreased since 2002.

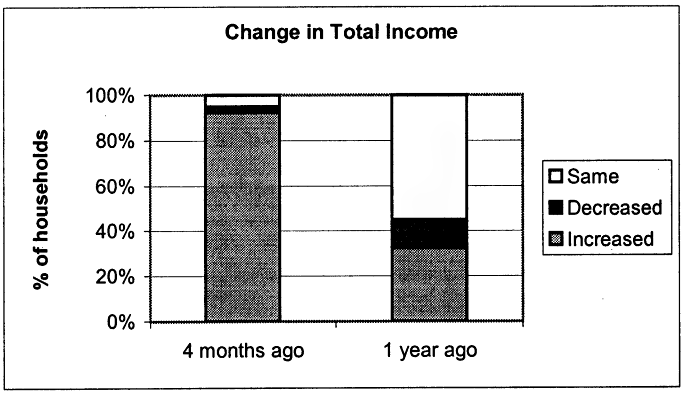
**Handicrafts, Wool Spinning, and *Gilim* Weaving**

Over 75% of households earned wages for spinning wool or for making *gilims*. Women from poor households tend to spin the wool for a wage received from better-off households. The women from the better-off households then weave the wool into *gilims*. Some handicrafts were also made and sold for cash. Women noted that they had received between 211 Afs and 506 Afs for their work in the previous 4 months. They said the availability of wool had remained constant through this period.

Apparently many households had had their own looms and produced *gilims* before the drought. They had to sell their looms during the drought but they still had the skills. Availability of wool was a constraint to households engaging in these activities. All interviews produced requests for assistance with re-establishing *gilim* weaving as a major industry in the village.

**Capacity to Cope: Coping Strategies**

The graph on the right shows that only a small proportion of households thought their income had decreased both in the 4 months prior to the survey (2.5%) or relative to the previous year (12.5%). Income increases affected a full 93% of households in the previous 4 months and affected 32% compared to 2002. In the last year, 68% said their income remained steady. These opinions indicate that in the past year no major livelihood shocks had affected Zendan and perhaps household livelihoods were recovering from the drought.



Information collected on coping behaviors that can signal declining livelihood and food security corroborates these findings. The coping strategies listed in this section do not include all the ways that households may take to survive tough times. Instead, they include only those strategies that are easily measured. The list has been divided into erosive and non-erosive coping strategies to better understand the long-term effects of different choices on a household's future livelihood security. The division is not mutually exclusive. The order in the list does not reflect a continuum of increasing desperation. The non-erosive strategy list does attempt to capture some adaptive strategies such as livelihood adjustments, income diversification, or consumption rationing. Finally, the coping strategies in the lists are to be considered options that, when chosen, signal a worsening situation. However, the listed strategies may also capture the behavior of vulnerable and chronically poor households that have no options and engage in these activities because they have to on a normal basis.

**Non-erosive Coping Strategies**

None of the results from coping behavior indicators signaled a sign of concern for the Zendan area. Firstl, during the previous 4 months there was no sign of distress selling of non-productive assets. However, many households had never had such assets or had sold them during the drought. Two households did sell household *gilims*, but the reasons for the sales could vary, so it should not be assumed that the households were in a worsening livelihood situation.

To meet daily expenses, 98% of the households engaged in longer hours of work. These numbers are high because 88% of Zendan households were involved in crop production and the survey took place during harvest. Begging brought income to 1 Zendan household in the survey, suggesting there may be families in Zendan that suffer from chronic poverty.

| Coping Strategies | % (#) |
|---|---|
| **Non-Erosive Coping Strategies** (last 4 months) | |
| Household member migrated for labor | 0 |
| Begging | 3% (1) |
| Household members worked more hours to make daily expenses | 98% (39) |
| Household borrowed food from relatives to make a meal | 83% (33) |
| Sold carpet/gilims from the house | 5% (2) |
| Sold house furniture | 0 |
| Sold house part (windows, doors, roofbeams) | 0 |
| Sold bicycle | 0 |
| Sold jewelry | 0 |
| Sold motorcycle / car | 0 |
| Ate stale bread | 0 |
| **Erosive Coping Strategies** | |
| Household took out loan - men | 18 % (7) |
| Household took out loan – women | 5 % (2) |
| Household sold or mortgaged land, house or shop | 3% (1) |
| Household took food on credit from a shop | 78 % (31) |
| Sent sons to work as indentured labor | 0 |
| Sold sewing machine | 0 |
| Sold loom | 0 |
| Sold handcart | 0 |
| Sold grinder | 0 |
| Sold tractors/combine/agricultural machinery | 0 |
| Married daughter early | 0 |
| Sent son to military | 0 |
| Household left community | 0 |

**Erosive and Distress Coping Strategies**

Besides the usual coping mechanisms used to meet daily expenses, a small proportion of households chose options that are potentially erosive to future livelihood. Only 1 household had had to mortgage property, while 78% of households had taken food on credit from a local shop.

During the previous 4 months, 18% of households had taken loans. These loans were used to cover costs of weddings, livestock purchases, or daily living expenses. Thus, some of these loans may actually signal improvement in livelihood security as people took the risk to invest in asset accumulation. The households that took the loans to cover daily expenses may have already taken loans and were going into further debt.

**Capacity to Cope: Risk and Vulnerability**

Households in the Zendan area engage in a variety of livelihood strategies but these choices are largely associated with the covariate risk of agriculture. The diversity of income sources can be scored using a similar method as used in assessing dietary diversity. Zendan households had an average income diversity score of 3.75, with very little difference among the wealth groups. Better-off households had a slightly higher score of 4, with the poor scoring 3.75, and the medium-income scoring 3.67.

| Average Income Diversity Score | |
|---|---|
| Better-off | 4 |
| Medium-income | 3.67 |
| Poor | 3.75 |
| All households | 3.75 |

**CONCLUSION: LIVELIHOOD SECURITY SUPPORT**

Relative to other parts of Kohistan district, Zendan village is doing well. The village has good access to water and has had good crop production, despite the disappointing harvest of 2003. In the last year, households had monetarily benefited from the introduction of poppy cultivation. Still, it is not clear that this is a sustainable income source for these households in the future. It exposes them to the same covariate risk surrounding rainfall amounts as other agricultural efforts. Households in Zendan were not resorting to erosive coping strategies and had a medium-income diversity score in comparison to other sentinel sites. The village continued to recover from the years of drought and conflict and livestock numbers were increasing slowly. Shocks to crop production and livestock continue to be a risk and responding to the shocks is difficult as Zendan is isolated from many available services.

Options for supporting socially-acceptable livelihood outcomes are presented in the table below. These options are conceptually arranged so they illustrate how they would support five categories of livelihood assets.[1] Before initiating any of these projects the broader political and social context in which these communities work needs to be further explored to understand if the projects are truly possible. Potential spill-over effects, including the constraints imposed by the seasonality of agricultural labor demands, deserve serious consideration.



[1] The five categories are taken from the DFID Livelihoods Framework model and the format of the table is based on work done by Adam Pain in his "Livelihoods Under Stress in Faryab Province" paper (2001).

**OPPORTUNITIES TO SUPPORT SOCIALLY ACCEPTABLE LIVELIHOOD OUTCOMES**

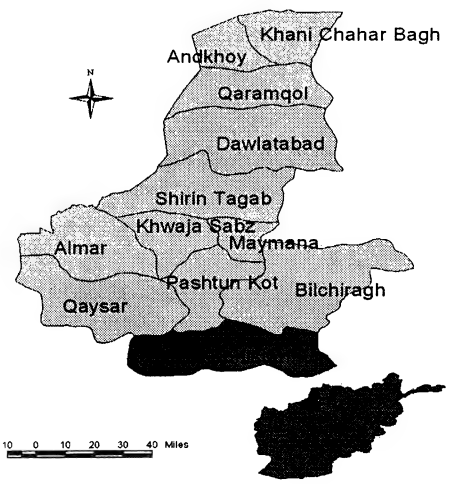
| Capital base | Asset | Means | Group | Livelihood outcome* |
|---|---|---|---|---|
| **Natural** | Fishing | Support better fishing techniques; identify fish conservation methodologies | Men and women | Increased fish; Increased fish availability; possibility for fish marketing |
| | Grazing land | Support grazing lands through MAAH and prevent using these lands for crop cultivation. | all group | Strengthened livestock assets and supported public assets. |
| | Water | Extend safe water use through better water storage in the homes. | all groups | Increased water safety. |
| | | Extend the use of water for the creation of electricity | all groups | Increased production<br>Improved lighting at night |
| | | Extend the use of water for the use of wheat mills etc. | all groups | Increased and improved production of flour |
| **Physical** | Livestock | Set up clinics/veterinary services through MAAH in the area. Treat village livestock. | livestock owners | Strengthened livestock owners economic. Increased livestock numbers. |
| | School | Build school for boys and girls through Ministry of Education | children/all groups | Increased children's education. |
| | Community/household toilets | Promote the building of toilets | all groups | Increased hygiene and reduced morbidity |
| | Bridge | Build pedestrian bridge over nearby river for better access to school and market. | all groups | Increase access |
| | Road access | Improve road access to Gorziwan | all groups | Increase access to services and markets |
| **Financial** | Credit | Provide credit to men and women for small scale investments | men and women | Increased handicraft, agriculture and livestock. |
| | | Provide community credit for community projects | | |
| **Human** | Human health | Train community health educators; create health posts; implement health education with a focus on hygiene; implement measles vaccination. | all groups | Reduced risk of mortality and morbidity |
| | | Implement nutrition education—promote a balanced diet | all groups | Improved nutritional status of children and women |
| | Literacy | Set up courses through literacy department of Ministry of Education | women and older girls | Improved child care<br>Increased access to information |

*This column includes livelihood outcomes or, at least, first steps that will link the activity to increased/improved livelihood outcomes.

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| Faryab Surveillance Unit | National Surveillance System (NSS)<br>Transitional Islamic State of Afghanistan<br><br>Ministry of Rural Rehabilitation and Development,<br>Ministry of Agriculture and Animal Husbandry,<br>and Ministry of Health | Kohistan District<br>Lashie Sentinel Site<br><br>Fall 2003 |
|---|---|---|

## Faryab Province




**Contents** **Page**



### SUMMARY FINDINGS: LASHIE

**Food Security**
- The harvests in 2003 were worse than in 2002
- 30% of households thought they did not have enough to eat during the previous 4 months
- 33% worried every week about where their food would come from
- Dietary diversity is a concern for all households

**Risk to Lives**
- The crude mortality rate was more than 4 times the normal developing country rate and more than double the emergency threshold during the previous 4 months
- The mortality rate of children <5 was 8 times the normal developing country rate and 4 times the emergency threshold during the previous 4 months
- Only 27 % of children were immunized against measles in a region where measles is the leading cause of death
- Morbidity patterns for children <5 were high (ARI:37%; watery diarrhea:47%)
- The closest health care is 40 minutes away by foot
- Women of childbearing age were at risk of malnutrition

**Livelihood Security**
- Low rainfall reduced crop output and a late frost reduced fruit and nut production
- Livestock disease was prevalent and veterinary services were non-existent in the area
- 18% of households resorted to eating stale bread during the previous 4 months
- Households had benefited from increasing poppy production

**What is the NSS?**
The National Surveillance System monitors trends in key indicators to predict early signs of change and deterioration in food security, nutrition, and livelihoods. In conjunction with complementary data collection systems, the NSS provides relevant data for prioritizing limited resources and designing programs.

**Methodology**
The NSS is based on a sentinel site system, in which provincial level ministries follow a rotating cohort of households over time. Sites are selected so that they mirror the majority of the communities with respect to agro-ecological features, economic activities, available services, and people in a given area known as a livelihood or agro-ecological zone. Information from the sentinel site may not be representative of every village in the zone because of the diversity of livelihoods in Afghanistan. However, it is likely that the data from one sentinel site can signal concern for other villages in the same zone. (Detailed information on methodology follows the final sentinel site report.)


Save the Children.
**The Faryab Provincial Surveillance Unit is supported by Save the Children USA and funded by DFID**

## REPORT OBJECTIVES

This document has several objectives. First, it intends to report information coming out of the National Surveillance System standardized methodology. Therefore, this report provides:

- current information on household food security status in Kohistan district,
- information on risk to lives and nutritional risk to individuals in Kohistan district,
- information on the current household livelihood security situation in Kohistan district, specifically looking at current shocks to livelihoods and the ability of households to adapt to these shocks, and
- better understanding of the vulnerability and risk of communities and households in Kohistan in relation to issues of food security, mortality, health, and nutrition.

Secondly, this report provides baseline information on indicators that are unique to a local area but had never before been explored in the depth needed for use in guiding programs and policies. These indicators reveal:

- characteristics of household wealth in Kohistan district;
- the presence of malnutrition, morbidity, and mortality in rural communities in Kohistan district; and
- types of livelihood strategies employed in Kohistan district.

Finally, the report aims to suggest how government and other agencies can use this new understanding about livelihoods, vulnerability, and risk for designing and prioritizing program interventions and effective policies.

## KOHISTAN DISTRICT LIVELIHOOD ZONES

Kohistan is a rural district found in southeastern Faryab Province. The Murghab River flows from northeast to southwest, cutting the district in half. The altitude ranges between 1000 to 3000 meters above sea level. Kohistan consists of rolling upland plains cut by steep incised valleys. The plains are used for agriculture or grazing, while the steep valleys have water flowing through them that supports limited agricultural irrigation. The meaning of the word Kohistan in Dari is mountainous land, referring to the Tirkeband-e Turkestan mountain range running through the region.

Lawlash is the district center, but in practice district administration is divided between Bandar (western Kohistan) and Lawlash (eastern Kohistan), each with its own governor. Traditionally, the Bandar governor has had links with the Jumbesh political party and the Lawlash governor with the Jamiat-i Islami party. Recently, the leader of the eastern part of Kohistan has switched sides and is now supporting Jumbesh. The governor in Bandar is now the official governor while the leader of the east has taken up the military leadership of the district. The population of Kohistan is dispersed, with two main population centers in the northwest. Other populated areas lie along the Murghab in the southwest and east. Accurate information on the numbers of villages, households, and inhabitants are not available, however estimates suggest that Kohistan has just over 100 villages, with 46 in Lawlash territory and 56 in Bandar. Kohistan can be divided into three distinct livelihood zones. A sentinel site was chosen from each area and this report includes information on the sentinel site from Zone 3, Lashie (see map).

**Zone 1: Rainfed Land (38 villages): Takhnyak**

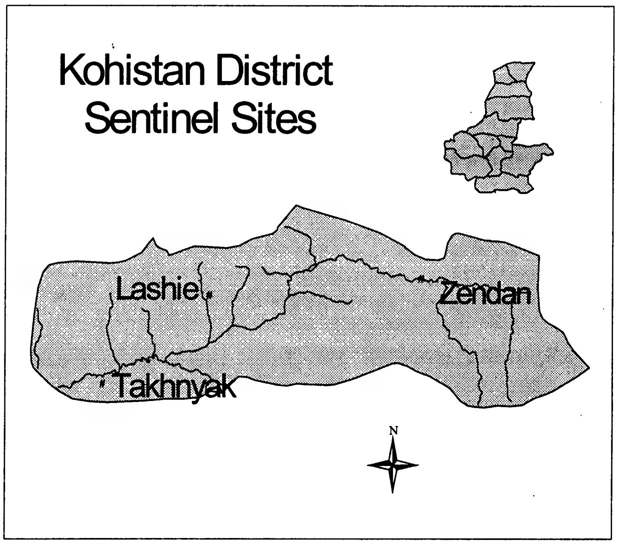
Zone 1 encompasses three clusters of villages in the southwestern section of Faryab. These villages are mainly found on high, flat, rainfed plains, where the main crop is wheat.

**Zone 2: Grazing Land and Irrigated Agriculture (11 villages): Zendan**

Zone 2 covers the northeastern part of Kohistan. Livestock is the main source of income for these villages, but they also have intensively irrigated small-scale agriculture located along the riverbeds.

**Zone 3: Mixed Irrigated and Rainfed Land (43 villages): Lashie**

Zone 3 covers the northern section of Kohistan. Many springs feed irrigation systems, allowing for small plots of intensive agriculture. The villages are surrounded by areas of rainfed land, which are used for growing wheat.



## LASHIE GENERAL INFORMATION

### Background Geography

Lashie, the village representing the population centers in the northwest of Kohistan, is located about 40 minutes by foot from Lawlash, the administrative center of the district. Lashie sits at an altitude of 1,925 meters so the winters are long. Lashie means "there is nothing" in Arabic. Apparently, the village received this name about 150 years ago after fighting between it and another. The people fled and when they returned, everything had been looted so, "there was nothing".

The people from Lashie are Aimak[1] and speak Dari. The village currently has one mosque and 135 households. Average household size in Lashie is 6.2 members. Based on other survey work and current Afghanistan Central Statistical Office (CSO) census data, the average household size in Afghanistan is 6.1 members. Better-off households in Lashie generally have more members than medium-income and poor households. Better-off men in the village have more than one wife at a time and so produce children from both wives. Also, sons of better-off families tend to stay in the household after marriage, which may occur earlier because better-off households can afford bride prices more easily. The village is 47% male and 53% female. The low ratio of men to women can be attributed to the loss of lives in 1998 during fighting that gave the Taliban control over half of Kohistan district.[2]

| Average Household Size | |
|---|---|
| **Better-off** | **9.3** |
| **Medium-income** | **6.6** |
| **Poor** | **5.5** |
| **All households** | **6.2** |

Information for this report was collected in two surveys. The first one was a baseline surveillance data collection in November 2002 and the second one was a survey using the standardized national food security and nutrition surveillance questionnaires in November 2003. Most of the information was collected during the November 2003 survey via male and female focus group interviews and 40 household interviews. The households interviewed in 2003 were the same 40 households interviewed in 2002.

### Administrative System and Political Affiliations

The *kariador*, or village leader, and the *shura,* group of decision-making elders, handle village-level decisions and settle village disputes. They have administrative links to the district center of Lawlash, which is 3 kilometers away. The governor, who has been loyal to the Jamiat-i Islami party in the past, collects taxes annually in the form of 1 out of 10 *seers* of cereal crops harvested.[3]

### Migration

During the last decade, households have migrated in and out of Lashie for a variety of reasons. When asked about land use during a typical year, one man replied: "The conflict has lasted so long that a typical year is for us to be outside Lashie and to not work our land." At least 90% of households left the village during fighting between Jumbesh and Jamiat-i Islami, leaving for several years or staying in the village during the summer and then spending the winter somewhere else.[4] While they were gone, their houses were looted and everything was lost. During the drought, many poor households left in hopes of finding work in other locations. During the 2003 harvest season, 5 households returned to Lashie. With the change in power and the interim government, hopes were high that the traditional conflict between Jumbesh and Jamiat-i Islami would be controlled and that stability would return to the area.

### Social Institutions and Networks

Although this survey did not measure community social structures directly, it asked about certain behaviors that reflect the existence of community social networks and safety nets. Like many villages in the region, Lashie has an active community mobilization process that organizes community work projects. The community collectively cleans canals, makes roads, plants crops, etc. As 37.5% percent of the households in this survey had taken loans in the previous 4 months, it is clear that social networks are active that provide a safety net for some households during certain years or seasons. The relationships between lenders and borrowers are not entirely clear. Additionally, almost

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[1] A large part of the Tajik population in Kohistan, particularly those south of the Murghab River, say they are Aimak. These people consider themselves different from the Tajiks and seem to have links with Turkey; however it is not clear what distinguishes them from Tajiks. They are both Sunni, but have some differences in language. The Aimak use several Uzbek and Turkish words in their language. It is believed that the Aimak came to Kohistan around the time of the Moghul ruler Timor.

[2] Surveyors noted that the village was a stronghold for the Taliban when they were there. One of the village leaders was head of the Maimana branch of the Ministry for the Promotion of Virtue and Prevention of Vice when the Taliban were in control.

[3] Taxes from poppies were paid to the village governor, which were in turn paid to the district governor.

[4] The Jumbesh and Jamiat-i Islami conflict in this area changed power on a seasonal basis, so households in Lashie were able to stay in the area when Jamiat-i Islami were in control during the summer months.

45% of households noted that they received income from *zaqat*, gifts, and gleaning in the past 4 months, all social mechanisms that help the poor. Finally, the 78% of households that borrowed food from a relative to make a meal suggests the strength of social networks in this area.

**Community Facilities**

There are separate primary schools for boys and girls in Lawlash center, about a 30-40 minute walk from Lashie village. Boys from Lashie attend but few girls do. Apparently villagers do not want their girls going to other villages, perhaps because they are Sayyeds. Lashie households requested a school in the village for both boys and girls. During the winter when the Lawlash school is closed, both boys and girls attended a village *madrassa*.

Besides a traditional birth attendant, there were no health facilities available in the village, but they were available in Lawlash. Health facilities available to the community will be discussed later in the Risk to Lives section of this report.

**Local Perceptions of Socioeconomic Status and Wealth**

The community divided households into three different wealth groups or socioeconomic categories. The better-off households made up 10% of the total, the medium-income households made up 30% and 60% were categorized as poor households. The table to the right shows features characterizing each wealth group. These socioeconomic groups will be used throughout the report to illuminate the relative differences in the food security, risk to lives, and livelihood security of different households. Some children's perceptions of distinctions between better-off and poor households are quoted below.

| Assets and activities | Wealth Group | | |
|---|---|---|---|
| | Better-off (10%) | Medium-income (30%) | Poor (60%) |
| Women | | | |
| Land | has | 6 *seer* (*maim*) | none |
| Oxen | a pair | one | none |
| Sheep and goats | 100 goats and sheep. | 10 goats and sheep | none |
| Donkeys | 3 | 1 | 1 |
| *Gilims* | 4 | 2 | none |
| Carpets | 0 | 0 | 0 |
| Travel | no | no | no |
| *Zaqat* | gives | gives a little bit | does not have to give |
| Clothes | expensive | normal | not good |
| Men | | | |
| Land | 20 – 25 *jeribs* | 10 – 15 *jeribs* | 0 |
| Wage labor | hires people | works on own land | works for others |
| Sheep and goats | 40 | none | none |
| Milking cows | 2 | 0-1 | none |
| Donkeys | own | own | 0-1 |
| Garden | own | 0 | 0 |
| Travel | yes | no | no |
| *Gilim* | yes | 0 | 0 |
| Carpet | none | 0 | none |
| Wedding | 8,000 USD | 6,000 USD | 3,000USD |
| *Zaqat* | gives *zaqat* | none | none |

**LASHIE FOOD SECURITY**

Certain indicators reveal information about access, availability, and quality components of food security. Monitoring these indicators can track changes in food security at a sentinel site, identify households' current food security status, and provide information on the nature of any food insecurity.

**Market Access**

Lawlash is the closest food market accessible to Lashie and surrounding villages. It takes 40 minutes to reach Lawlash by foot or donkey, and half that time by vehicle. Market day is once a week and the market is accessible in every season. Villagers from Lashie trade wheat, barley, livestock and livestock produce, *gilims*, vegetables, and fruit primarily for cash. They buy food and non-food items such as kerosene, shoes, cloth, matches, soap, and medicine. Some households also buy staple foods such as wheat, rice, fruit, vegetables, and salt.

| Market location | Time to Reach Market | | Round trip cost | Market accessible in winter and spring? |
|---|---|---|---|---|
| | Vehicle | Foot or donkey | | |
| Lawlash | 20 minutes | 30 to 40 minutes | - | yes |
| Maimana | 6-8 | 2 days | 700 Afs | no |

**Local Perceptions of Socioeconomic Status / Wealth**

**Better-off wealth group**

*Rich family members wear good clothes, which are better than poor family members' clothing. They have enough to eat and they eat rice, meat, etc. They have expensive goods like silver and have a good house. They have 6-7 milking cows and sheep and goats. The bride price for a wealthy household is the equivalent to about 8,000 USD. Half of the bride price is paid with goats, sheep, gilims, and wheat.* -Adult

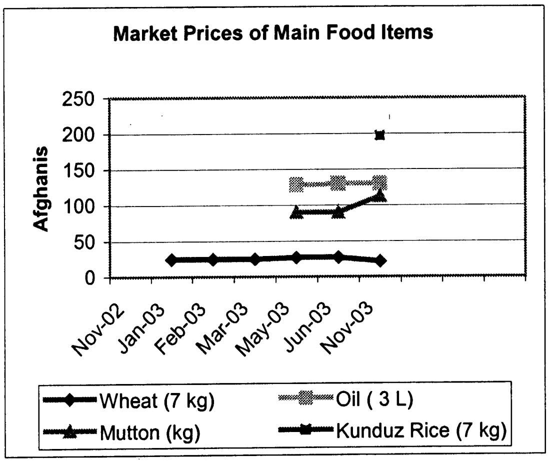
*Rich households own land, livestock and have enough to eat. They have good clothing, new chadaris, and shoes. They have three donkeys and kill animals during Eid Qurban. They also eat rice and meat every night.* -Girl

**Poor wealth group**

*Poor people need help from NGOs with wheat, beans, and ghee distributions. Poor people borrowed from the rich people and then returned the money sometime later. The amount repaid is usually double that of what the poor man originally borrowed. If the poor man continues to not repay his loan, than the amount he owes increases. The bride price for poor households is between 50-1,000 USD. Most of this is paid in wheat, goats, and sheep.* -Adult

*There was a person in this village named Amanullah. He was very poor. He did not have anything. His two daughters starved to death, and his son had barely anything to eat. Amanullah could not earn money because he was disabled. Now he only has one son.* -Boy

*They have a small amount of land and do not have enough food to eat. The children don't wear good clothes and they don't have good shoes.* -Girl



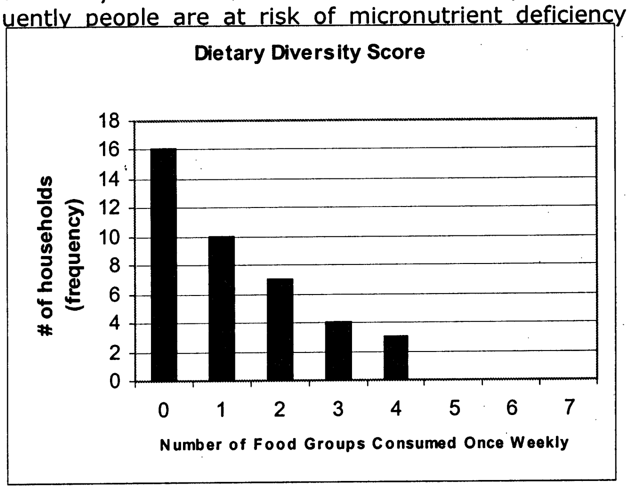

People also go to the Maimana market by local transport to sell and purchase goods. This trip takes 8 hours over a poor road across the Tirkeband-e Turkestan mountain range and it is inaccessible during winter months. It costs 300 Afghanis (Afs) for a one-way trip and 100 Afs to stay overnight.

**Food Prices**

Based on the data in the graph the prices of wheat, mutton, and oil were fairly constant between May to June 2003. By November the price of oil and mutton had increased while the price of wheat had decreased. The decrease in wheat prices was beneficial for households that consumed wheat but both male and female focus groups identified food price increases as a concern for the community during the previous 4 months. In Lashie, price increases would have a detrimental effect on poor households that would then be unable to stock up before winter.

## Dietary Diversity and Dietary Quality

Dietary diversity is a primary component of food security. Previous studies show that dietary habits in Afghanistan are not very diverse and consequently people are at risk of micronutrient deficiency disorders and related diseases. It is not entirely clear how dietary preferences and available food types interact to determine household dietary patterns. To better understand the quality of diets in the previous 4 months, surveyors asked about the frequency of eating foods from different food groups.




These results were used to create a dietary diversity score to investigate dietary quality and to monitor it over time. The diversity score is calculated by attributing a score of 1.0 to each food group that was eaten at least once weekly. Thus, households with a higher diversity score have a more diverse diet. Repeated surveys throughout the

**Perceptions of Food Security**

Perception of food security is an important indicator of current food security status. In Lashie, only 5% of households considered the food situation worse than either the previous year or 4 months earlier. Despite the decrease in grain harvest in 2003, almost all households considered their food security situation improved over the past year.

However, 30% of households still thought they had not had enough to eat during the previous 4 months. Of these 12 households, 11 were poor and 1 was medium-income. A full 33% of the surveyed households worried at least 3 to 6 times a month where their food would come from. None of the households expected the situation to be worse in the next 4 months, but 70% did not know if the situation would be worse or not.

| Perception of Food Security Indicators | % of 40 households |
|---|---|
| Consider food situation to be **worse** in comparison to 4 months ago | 5 |
| Consider food situation to be **worse** than 1 year ago | 5 |
| Considered food situation to not be sufficient at time of survey | 30 |
| Worried where their food was coming from at the time of survey | 33 |
| Expect the food situation to be **worse** in the next 4 months | 0 |

**CONCLUSION: CURRENT FOOD SECURITY STATUS**

All but 2 households thought the food situation was better than the previous year, even though the cereal harvests decreased in 2003. Around 30% worried about the sufficiency of their intake and where their food would come from. So, although households were recovering from the drought, some of them were not food secure. Dietary diversity was a concern for Lashie households, especially in the fall and winter. Education on dietary diversity could improve the quality of diets, especially if it emphasized acquiring essential nutrients using local foods. In a poor harvest year, many of the poor households, still struggling to recover from the drought, benefited from high agricultural labor wages and low wheat prices.

## LASHIE RISKS TO LIVES

Indicators monitoring the risk to lives at sentinel sites can signal regions where individuals are more vulnerable and reveal underlying causes of increased risk. These indicators help gain better understanding of relationships involving nutrition, sanitation, morbidity, and mortality.

**Mortality Indicators**

The survey found that the crude mortality rate (CMR) for Lashie was 2.2 deaths/10,000 people/day. This rate was more than 4 times the normal developing country level of 0.5 deaths/10,000 people/day and more than twice the emergency threshold rate of 1.0 deaths/10,000 people/day. The mortality rate of children <5 was even more worrying at 8.2 deaths/10,000 people/day. This rate was more than 8 times the normal developing country rate of 1.0 death/10,000 people/day and more than 4 times the emergency threshold rate of 2 deaths/10,000 people/day. The local people expressed no alarm at the high death rates during the previous 4 months, suggesting that it was not unusual.

Of all deaths among women of childbearing age in Afghanistan, 48% can be attributed to complications during pregnancy or childbirth. Additionally, newborns only have a 25% chance of survival if their mothers die during childbirth and most die within the first month due to malnutrition.[6] Because of this high rate of maternal and child mortality in Afghanistan, this study also looked at the number of children who had a skilled birth attendant present at delivery as a proxy for risk to lives of both the mothers giving birth and the new infants. Three children were born during the previous 4 months in Lashie, but none of the births were aided by a skilled birth attendant.

[6] MoH Afghanistan/UNICEF/CDC, 2002

| **Risks to Lives Indicators** (n= number measured within category) | **%** |
|---|---|
| **Mortality Indicators**[7] | |
| Crude mortality (deaths / 10,000/day) | 2.2 |
| Under 5 mortality (deaths/10,000/day) | 8.2 |
| Births in last 4 months attended by a skilled birth attendant (n=3) | 0.0 |
| **Morbidity Indicators** | |
| Children <5 years with watery diarrhea (two week period) (n=30) | 46.7 |
| Children <5 years with bloody diarrhea (two week period) (n=30) | 3.3 |
| Children <5 with ARI (two week period) (n=30) | 36.7 |
| Children between 6 and 59 months with measles vaccination[8] (n=30) | 26.7 |
| **Child Anthropometric Status (WFH % of median and MUAC)** | |
| Children with severe and moderate acute malnutrition, and edema (n=29) | 0.0[9] |
| Children between 6 and 59 months with edema (n=29) | 0.0 |
| Children between 6 and 59 months - severe acute malnutrition (n=29) | 0.0 |
| Children between 6 and 59 months - moderate acute malnutrition (n=29) | 0.0 |
| Children between 1 year and 59 months with a MUAC < 13.5 cm (n=26) | 13.8 |
| Children between 1 year and 59 months with a MUAC < 12 cm (n=29) | 0.0 |
| **Adult Women Anthropometric Status** | |
| Reproductive age women (15-49 years) with a MUAC <23.0 cm (n=46) | 30.4 |
| Reproductive age women (15-49 years) with a MUAC <21.0 cm (n=46) | 8.7 |
| **Micronutrient Deficiencies** | |
| Households with iodized salt (only includes households with salt) (n=40) | 0.0 |

**Morbidity Indicators**
Morbidity indicators in the surveillance system are associated with a risk of mortality and are the primary causes of death for children <5 in Afghanistan. The incidence of watery diarrhea among children <5 in Lashie was 47%, which should cause concern for the village. However, the presence of 3% of children <5 with bloody diarrhea was within the range found in nearby villages. Sanitation is poor in the village, so many of the diarrhea cases may be attributed to lack of toilet facilities, poor hygiene practices, and lack of clean water.

In Lashie, 37% of children <5 suffered from acute respiratory infections (ARI). Past surveys in this area note a higher incidence of ARI during the winter months and lower incidence during the summer months. Since this survey took place at the beginning of winter, the cooling weather could have been partially responsible for this higher figure. Poor hygiene practices and the lack of adequate health and sanitation facilities also enhance children's susceptibility to ARI.

According to official statistics, measles vaccination coverage in Afghanistan is 95% and the Ministry of Health (MoH) reports that the Lawlash region of Kohistan has high coverage. The measles vaccination coverage of 27% among Lashie children <5 in this round of data is worrying, especially as previous surveys have reported the primary cause of death in the total population is measles.

**Children's Nutritional Status**
Using weight for height percentage of the median (WFH), the survey found no evidence of global acute malnutrition (GAM) prevalence for children between 6 and 59 months.

Children are classified as moderately malnourished by middle upper arm circumference (MUAC) measurements <12.0 cm and are potentially at risk of death. None of the children in the survey were moderately malnourished and about 15% were at risk of malnutrition with a MUAC <13.5cm. These figures, along with the WFH results suggest that acute malnutrition in children <5 was not a cause of concern in Lashie.

**Adult Women's Nutritional Status**
Low MUACs in women of reproductive age are associated with high maternal and child mortality, making it an important indicator for increased risks to adult women's mortality. The survey found that 30% of women had a MUAC <23.0 cm and 9% of women had a MUAC <21.0 cm. Additional information on cut-off standards needs to be collected in order to better interpret the implications of the percentage of women with a MUAC <23.0cm. With 30% of the women in the village below this cut-off and almost 9% <21.0cm, women of childbearing age in Lashie are definitely threatened by malnutrition.

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[7] The mortality rate was calculated by collecting information on village deaths from the community *mullah*. This method of calculation is being piloted for the Afghanistan context and may be misleading when comparing the figures to standardized WHO mortality rate cut-offs. Thus, the mortality rate should be interpreted with caution until the pilot finding results are finalized.

[8] While clinics start measles vaccination at nine months, campaigns in remote areas such as Kohistan cover children six months and over.

[9] Malnutrition levels are reported based on a small cohort sample and should only be interpreted over time in order to understand shifts in nutritional status. Because the sample was randomly selected, these shifts are meant to reflect shifts in both the whole sentinel site populations as well as the whole livelihood zone population.

**Micronutrient Deficiencies: Iodine**

Presence of iodized salt in the house is a proxy for its use and for iodine deficiency. Iodine deficiency is linked to the following disorders:

- In all individuals: goiter and loss of energy
- In pregnant women: miscarriages, stillbirths, and mentally retarded children
- In children: impaired mental and physical development, mental retardation, physical deformities, and cretinism

No households had iodized salt as all salt was locally mined block salt. During the massive food distributions of the previous 3 years, locally-produced iodized salt was included in the distributed food package and households received health education on the benefits of iodized salt.

**Health Facilities**

The following table lists the health services available to the people in Lashie. Within the village there is only a traditional birth attendant. In Lawlash, an extended program of immunization (EPI) clinic maintains vaccination services. Currently two vaccinators and a supervisor work out of the EPI. Sometimes the vaccinators bring medicine from Maimana to supply local needs. Under MoH infrastructure plans the EPI clinic in Lawlash will become a Basic Health Center. A private doctor is located in Bandar, which is 4 hours away by foot or two hours away by car. The doctors' fees are between 30 to 50 Afs and it costs 300 Afs for round-trip transport to Bandar.

| Health Facilities and Services | Facility / service provider location | Time to reach facility / service provider | Round trip cost | Facility access | Facilityaccessible in winter and spring? |
|---|---|---|---|---|---|
| Health posts | none | -- | -- | -- | -- |
| Basic Health Center | Lawlash | 40 minutes | 0 | everybody | yes |
| Comprehensive Health Center | Maimana | >1 day | 700 Afs | everybody | nNo |
| Hospital | none | >1 day | 700 Afs | everybody | yes |
| Traditional healers / birth attendants | Lashie | <1 hour | 0 | Women | yes |
| Skilled birth attendant | Maimana | >1 day | 700 Afs | women | yes |
| Private doctor | Bandar | 4 hours | 200 Afs | everybody | yes |

Emergency cases require a trip to Maimana, the provincial capital. This trip takes 8 hours over a poor road across the Tirkeband-e Turkestan mountain range and it is not undertaken during winter months. Travel to Maimana costs 700 Afs per person for a round trip and overnight stay. In Maimana, patients first go to a private doctor, who charges 50 Afs, instead of going directly to the provincial hospital. If the doctor determines an operation is necessary, villagers will then go to the provincial hospital and pay about 5,000 Afs for the procedure. Apparently only better-off households go to Maimana for care and only in extreme cases.

Women requested better health care both in the village and in Lawlash. They say their use of health facilities increased during the previous 4 months because an NGO food-for-work road project had improved road access to Lawlash and Bandar had, their economic situation had improved, they received health education through another NGO, and there was more disease in the village.

**Water Sources for Household Use**

The people of Lashie obtain adequate household water supplies from springs, an open well, and a river/irrigation canal. Fetching water is women's responsibility. The primary source of water in the village is from the springs. These springs deliver water through pipelines to many places in the village. The time needed to fetch water varies from 5 to 30 minutes according to a household's distance from a pipe. These pipelines were installed during the past year, so villagers recognize that the quality and quantity of their water has improved.

The second source of water is an open well, and some households use it as their only and main source. The quality is the same as the previous year, but there is less available. The third source of water is the river/irrigation canal formed by the convergence of the springs. Villagers use that water for washing and for their livestock.

| **Drinking Water Source** (in order of use) | Time used to collect water | Quality Δ since last year | Quantity Δ since last year |
|---|---|---|---|
| **Pipeline from springs** | <1 hour | increased | increased |
| **Open well** | <1 hour | same | decreased |
| **River** | <1 hour | same | decreased |

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### Sanitation Facilities

Most people in the village have vault latrines. These are open latrines. Usually children avoid open latrines because they fear falling in, but in Lashie the children use the toilets because they have been taught about health and sanitation issues. Some people use human waste for fertilizer for their vegetable and cereal crops, which could be linked to disease and potentially to the high mortality rate in the village. Women asked for hygiene courses to prevent disease.

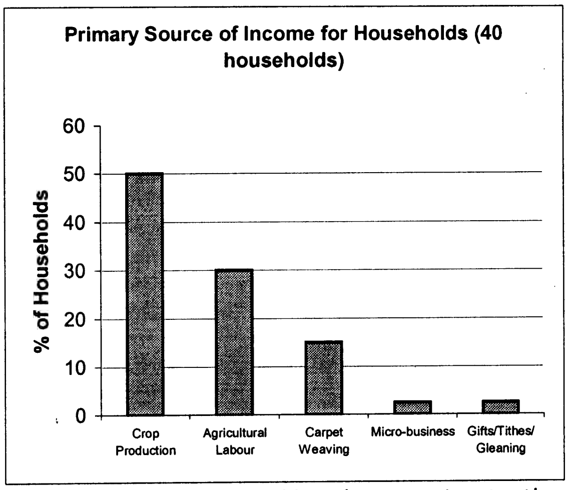
### CONCLUSION: RISKS TO LIVES

During the previous 4 months, Lashie's crude mortality rate was more than twice the emergency threshold levels and mortality rates for children <5 were 4 times the emergency threshold level. Morbidity patterns for watery diarrhea and ARI were high for children <5 and could be linked to the high death rate in the area. The low measles vaccination coverage rate is very disturbing since the primary cause of death in the region is measles. Efforts must be made in upcoming campaigns to improve coverage. Maternal malnutrition rates were worrying and should be monitored, not least because of the links between maternal malnutrition and mortality rates in mothers and children.

Health services can be difficult to access, both in terms of distance and money, and are very limited. Health education had raised awareness in the village of the link between hygiene and disease, but needs to continue so villagers understand the reasons behind the high mortality rates. While toilets were common in Lashie, the fertilization of fields with human waste might not be done properly and might have contributed to population morbidity.

## LASHIE LIVELIHOOD SECURITY

Livelihood security indicators focus on the livelihood strategies of households within a community. They reveal livelihood assets related to particular income sources and expose current shocks to livelihood sources as well as households' abilities to cope with these shocks. Analysis of these indicators could provide agencies with sufficient information to decide whether there is a need to respond to a current shock. Finally, examination of coping strategies can identify characteristics of particularly vulnerable households.




### Livelihood Strategies

Crop production provided the primary source of income to 50% of households in Lashie during the previous 4 months. An additional 30% considered agricultural labor as their main source of income. In Lashie, 15% of households wove carpets as their primary source of income, 5% were engaged in micro-business, and another 5% received *zaqat*, or tithes, as their primary source of income.

The following table captures the proportion of households engaged in each of the different income activities. It gives an overview of the relative importance of different livelihood strategies to the community.

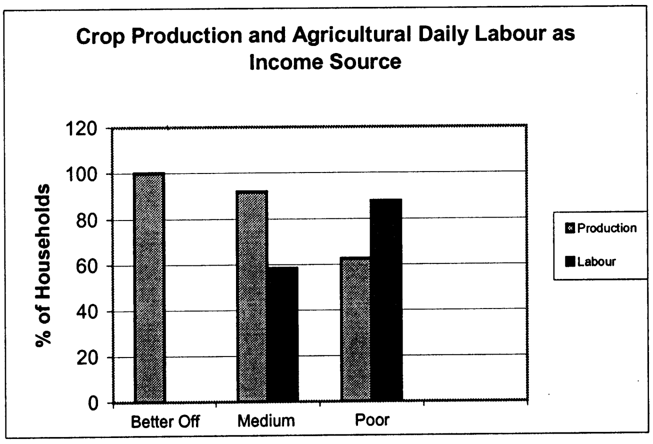
| Household Income Activities | % of households with income earned by men and women from activity cited at left (per men) | % of households with income earned by women from cited activity (per women) |
|---|---|---|
| **Agricultural production** | 75 | 50 |
| **Agricultural labor** | 70 | 45 |
| **Livestock** | 80 | 65 |
| **Handicrafts and gilims** | 15 | 18 |
| **Handicrafts – wage labor** | 65 | 63 |
| **Shops/trader** | 3 | - |
| **Micro-business** | 5 | - |
| **Loans** | 38 | 5 |
| **Repayment of loans** | 3 | - |
| **Begging** | 3 | 5 |
| **Tithes (zaqat)** | 28 | 43 |
| **Collecting natural resources** | - | 5 |

A full 75% of households engaged in agricultural production and 75% received income from agricultural labor. No households had livestock as the primary source of income but 80% of households gained some income from keeping animals. Handicrafts, wool spinning, and *gilim* weaving were an income source for 15% of households and provided wages to 65% of households. Men reported that 28% of households earned income from *zaqat*, while women reported that 43% received income from *zaqat*. During the previous 4 months, 38% of households took loans. These loans covered weddings, funerals, construction, purchase of donkeys, and daily living expenses. Loans were repaid to 3% of households. Trading and begging each brought income to 3% of households and 5% received income through micro-businesses. Some households received income as *mullahs*.

Data on women's income activities uncover the role of women in current livelihood strategies and provide information that men may have left out or not have been aware of when commenting on household income. Agricultural production provided income for women in 50% of households and agricultural labor contributed to women's income in 45% of households, usually for weeding poppy fields and vegetable gardens. Livestock provided income to women in 65% of households. During the previous 4 months, 63% of households had women earning wages from making handicrafts, spinning wool, or weaving *gilims*. Another 15% reported the women earned cash by operating these activities. In addition to the 43% of households that reported receiving *zaqat* during the previous 4 months, 5% reported receiving income from loans, begging, and natural resource collection.

**Crop Production and Agricultural Day Labor**

Crop production and agricultural labor provide essential sources of income for the majority of households in Lashie. The graph illustrates the proportions of households involved in these activities by wealth group.




All better-off households are engaged in crop production and just over 90% of medium-income households listed it as an income source. Over 60% of poor households grew crops as an income source.

Irrigated wheat, rainfed wheat, and barley are the main income-earning crops in Lashie. They are consumed by the producing households and exchanged. Every year a portion of the harvest is reserved to provide seed for the next year's planting and to reduce vulnerability to future shocks. Some households also grow extra potatoes, spinach, carrots, squash, and watermelons to sell in the Lawlash market.

Agricultural day labor was also an important source of income for households in Lashie. Better-off households did not have members engaged in daily labor but 56% of medium-income and 88% of poor households relied on agricultural daily labor as an income source. A large proportion of poor households relied on it as their main source of income during the previous 4 months.

**Crop Seasonal Calendar**

The following table shows the crop calendar for the main food staples in the area. Winter wheat is planted in November and December and spring wheat is planted in March and April. The wheat is normally harvested in July and August. Winter planting requires 30% of the seeds and the rest are planted in the spring. The crop calendar for barley is the same as for wheat except winter planting only occurs in December. Also, only 10% of the barley seeds are planted in the winter and the rest planted in the spring. Pulses are planted in May and are harvested in September and October. Watermelons are planted in mid-May.

| Crop Calendar | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wheat* | | | | | | | | | | | | |
| Barley | | | | | | | | | | | | |
| Pulses | | | | | | | | | | | | |

Irrigated and rainfed

Spring planting | Harvest | Winter planting

### Crop Production Livelihood Assets: Land Ownership, Land Use Patterns, and Draft Animals

Land ownership is the key livelihood asset for agricultural production. A full 75% of households owned land, only a few poor households were landless. The average amount of land owned differs according to wealth group. Better-off households owned an average 27 *jeribs*, medium-income households owned 14.2 *jeribs*, and poor households owned 10.0 *jeribs* of land, indicating that land ownership is a characteristic of wealth differentiation. All the better-off households owned both irrigated and rainfed land, whereas 67% of medium-income households owned irrigated land and 92% owned rainfed land. Among the poor households, 29% owned irrigated land and 58% owned rainfed land. Yields by wealth group also reflect the land ownership patterns in the village, with poor households producing on average more than a third less of rainfed wheat than better-off households.

| Land ownership | All households | Better-off | Medium-income | Poor |
|---|---|---|---|---|
| **Households owning land (%)** | **75%** | **100%** | **100%** | **58%** |
| Average amount of land owned (*jeribs*) | 13.9 | 27 | 14.2 | 10.0 |
| **Households owning irrigated land (%)** | **48%** | **100%** | **67%** | **29%** |
| Average amount of irrigated land owned (*jeribs*) | 5.1 | 8.5 | 5.9 | 2.3 |
| **Households owning rainfed land (%)** | **73%** | **100%** | **92%** | **58%** |
| Average amount of rainfed land owned (*jeribs*) | 18.5 | 18.5 | 11.2 | 8.9 |
| Households owning ≥ 1 draft oxen (%) | 45% | 100% | 67% | 25% |

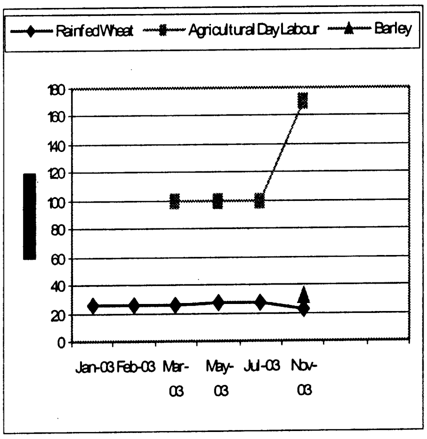
Land ownership is fairly fixed. However, during the drought 1 household had sold land in a distress sale. Security issues, rainfall fluctuations, and availabilities of new crops and seed varieties have produced great changes in land-use and management patterns from year to year. For example, in 2002 21% of households indicated that they first rented out their land or sharecropped other farmer's lands instead of producing on their own land. Additionally in 2002, 17% of households indicated that they had started to use their land again after many years of not cultivating due to lack of rain and human resources. In 2003, the amount of land used for poppy production had increased, eliminating a significant proportion of the land planted to cereals.

Draft oxen are extremely important for crop production in Lashie. Of the 40 households, 45% owned at least one draft ox or bull, with 100% of better-off households, 67% of medium-income households, and 25% of poor households owning oxen. In the past year some households had bought oxen, suggesting that the economic situation in the area was improving.

### Shocks to Agricultural Yields

| Crop Destruction | Households with 20% to 50% of crop destroyed | Households with >50 % of crop destroyed | Reasons for crop destruction |
|---|---|---|---|
| **Irrigated wheat** | 18% | 9% | no irrigation; smut |
| **Rainfed wheat** | 21% | 21% | lack of rain; smut |
| **Barley** | 60% | 0% | lack of rain |

Of those planting irrigated wheat, 18% had lost between 20% and 50% of their crop. An additional 9% had had over 50% of their crop destroyed by smut and inadequate irrigation water. Among villagers planting rainfed wheat, 21% had lost between 20% and 50% of their crops and another 21% of households had lost more than 50% of their crops to smut and inadequate rain. Additionally, 60% of households planting barley had lost over 50% of their crop because of inadequate rain. This suggests that the Lashie area had suffered from significant crop damage due to inadequate rainfall and smut. The losses were not catastrophic because there had been a good harvest in 2002. The effects of 2003's poor harvest varied according to the livelihood stability and alternative income sources of each household.



## Market Prices of Agricultural Goods

In Lawlash market, the district market closest to Kohistan, wheat prices remained around 20 Afs per *seer* from January 2003 through November 2003. This is much lower than the 40 Afs price in the rest of the country. The low price reflects low demand and high supply locally. The southern part of Kohistan is traditionally a rainfed wheat surplus area, so this is not a surprise. Agricultural labor prices were stable throughout the summer but had risen by November of 2003.

Farmers in the Lashie area complained that low wheat prices and high agricultural labor prices had forced them to abandon some of their harvest in the field. The low wheat price had encouraged households to turn increasingly to poppy production for income.

Households in Lashie grew irrigated and rainfed poppies. They were able to get about 5 kg of raw opium from one *jerib* of irrigated poppies and between 2kg and 3 kg of raw opium from one *jerib* of rainfed poppies. One kilogram of raw opium earned between 10,000 Afs and 12,000 Afs when the traders came from the south to buy the product. Many households had devoted one *jerib* of land to poppy production in 2003 and were planning to do so again in 2004.

The high agricultural labor wages benefited the 70% of households earning income from daily labor, but of course were detrimental to those households who relied on daily labor for harvest. Still, those households who were net producers were most likely benefiting from poppy production, which was partially responsible for driving up the labor wages. In addition to using the local labor force to harvest poppies, workers came from Kandahar and Helmand to provide expertise on how to do it.

## Livestock

None of the households in Lashie depended on livestock as a primary income source during the previous 4 months. However, 80% of households claimed it was an income source and 65% of women claimed it as an income activity. Besides selling the livestock at the market and using the produce in their own homes, households sold *kurk*, *krut*, ghee, and *qaraqul* skins in the market.

Livestock ownership was severely affected by the drought and the civil unrest between 1996 and 2001. Data suggest that households lost from 70% to 80% of their livestock during this period. Livestock ownership patterns at the time of the 2003 survey are listed in the table below. A large proportion of households, 88%, owned donkeys, which are essential transportation resources in this mountainous region. Sheep and oxen are each owned by 45% and goats are owned by 40% of households. The better-off own the largest proportions of livestock and the poorest the least.

| Livestock Ownership 2003 | Goats | Sheep | Draft oxen | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|
| **Households with asset (%)** | **40%** | **45%** | **45%** | **23%** | **3%** | **88%** |
| Average number owned | 6.6 | 18.1 | 1.4 | 1.9 | 1.0 | 1.1 |
| **Better-off households (%)** | **100%** | **100%** | **100%** | **75%** | **25%** | **100%** |
| Better-off – number owned | 12.3 | 41.0 | 2.0 | 2.7 | 1.0 | 1.3 |
| **Medium-income households (%)** | **84%** | **92%** | **67%** | **34%** | **0%** | **100%** |
| Medium-income number owned | 4.8 | 13.9 | 1.4 | 1.5 | 0 | 1.2 |
| **Poor households (%)** | **85** | **13%** | **25%** | **8%** | **0%** | **80%** |
| Poor number owned | 4.0 | 2.7 | 1.0 | 1.5 | 0 | 1.1 |

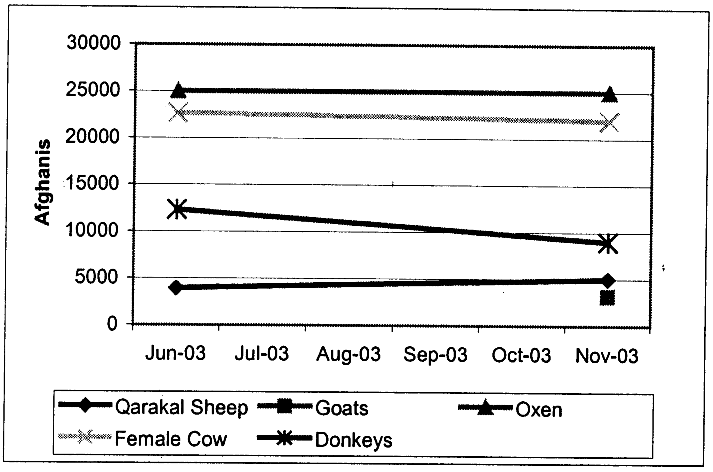
Data suggest that households may be recovering from the drought. The number of households raising goats and sheep increased but the average size of flocks decreased. All other livestock numbers continued to decline. These trends are illustrated in the following table which shows households and their livestock in a normal year, in the drought year of 2002, and in 2003.

| Livestock Assets Over Time | Goats | Sheep | Draft oxen | Cows | Horses | Donkeys |
|---|---|---|---|---|---|---|
| **Households with assets (%) in normal year** | **85%** | **75%** | **83%** | **85%** | **40%** | **90%** |
| Average number owned | 24 | 97 | 3.2 | 3.4 | 2.1 | 2.9 |
| **Households with assets (%) in 2002 (drought year)** | **25%** | **33%** | **50%** | **40%** | **5%** | **75%** |
| Average number owned | 7.3 | 25.6 | 1.1 | 1.8 | 1.5 | 1.3 |
| **Households with assets (%) in 2003** | **40%** | **45%** | **45%** | **23** | **3%** | **88%** |
| Average number owned | 6.6 | 18.1 | 1.4 | 1.9 | 1.0 | 1.1 |

**Livestock Disease**
When asked about the current disease status of their livestock, village leaders reported that their sheep and goats had enterotoxaemia, anthrax, foot and mouth, and sheep pox and that their cattle had foot and mouth.

| Livestock Disease | Cattle and oxen (% affected) | Sheep and goats (% affected) |
|---|---|---|
| **Enterotoxaemia** | -- | 1% |
| **Anthrax** | -- | 70% |
| **Pasterellosis** | -- | 5% |
| **Foot and mouth** | 67% | 10% |
| **Sheep pox** | -- | 20% |

Anthrax reportedly affected 70% of the sheep and goats in Lashie, sheep pox affected 20%, and enterotoxaemia affected 1%. All of these diseases are deadly. Animals with anthrax, however, die within 24 hours, preventing the disease from spreading, but the first symptom of enterotoxaemia can be sudden death. No corroborating evidence of this animal health crisis was found. Therefore, it is unlikely that anthrax and sheep pox were as prevalent as the village leaders claimed. A large proportion of the cattle and a smaller proportion of the sheep and goats may have had foot and mouth disease, because that disease had been a problem in Lashie in the past. It is also likely that pasterellosis affected 5% of the sheep and goats. Livestock owners in the surrounding area had not vaccinated their animals so livestock are at risk of disease outbreaks.




**Livestock Prices**
There were not enough data about livestock prices to determine any trends.

**Grazing Land and Access to Water**
According to village leaders, access to grazing land in Lashie was the same as the previous year, as did the productivity of the grassland and access to water for the animals.

**Trees and Vineyards** Households did not report income from trees and vineyards during the previous 4 months because income from these sources comes during June and July, before the survey period. In 2003, many households produced poplar, apricot, apple, and walnut crops for their own needs, with small amounts devoted to sale. These crops are more useful for dietary diversity than for income but any additional income is very helpful for buying goods at the market. A few households had produced fairly large numbers of poplar trees that will be cut for roof beams. All households raising plums and grapes had lost more than 50% of their crops to a severe late frost. That same frost had also destroyed more than 50% of the almond and mulberry crops of half the growers. Of households growing apples, 17% had lost over 50% of their crop to insects. Finally, inadequate irrigation water had led to a loss of between 20% and 50% of the poplar crops for 15% of the households growing those trees. Additionally, households in this village and the surrounding area have access to pistachio groves. This year, that late frost had killed the pistachio blossoms and destroyed the crop.

| Tree Ownership | % of households | Average # of trees owned | Range of ownership | % of households with 20%-50% of crops destroyed | % of households with >50% of crops destroyed |
|---|---|---|---|---|---|
| **Apricots** | 15 | 7 | 1-20 | -- | -- |
| **Apples** | 15 | 2 | 1-3 | -- | 17 |
| **Plums** | 3 | 1 | 1 | -- | 100 |
| **Almonds** | 5 | 13 | 5-20 | -- | 50 |
| **Grapes*** | 3 | 2 | 2 | -- | 100 |
| **Mulberry** | 5 | 3 | 1-4 | -- | 50 |
| **Walnuts** | 10 | 3 | 1-7 | -- | 25 |
| **Poplar** | 18 | 79 | 3-300 | 15 | -- |

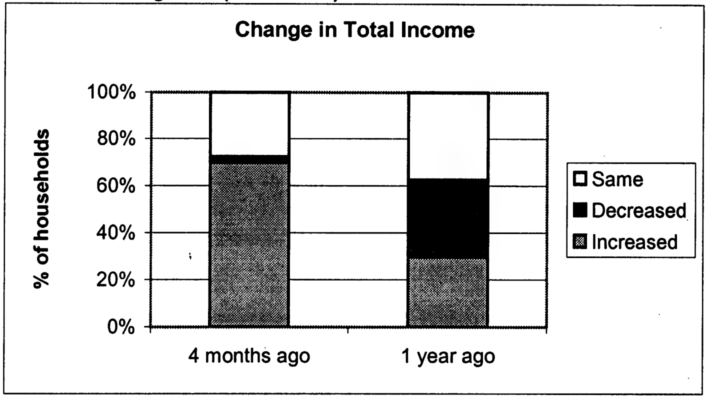
*Refers to base vines

**Handicraft, Wool Spinning, and *Gilim* Weaving**
In Lashie, 65% of households had received a daily wage by making handicrafts (embroidering hats and tailoring), spinning wool, or weaving *gilims*. Another 18% of households had received income from producing and directly selling these types of goods.

Before the drought, all households had relied on cottage-industry crafts as a source of income. During the drought, around 70% of households increased their reliance on this income source, while the remaining households decreased their reliance. Nearly 20% of households stopped tailoring because the demand fell off as the local economy slowed. Around the same time, 20% also stopped weaving *gilims* because the demand fell off and the raw materials became scarce.

***Zaqat***
Lashie households reported that 28% had received income from *zaqat*, or tithes. When the women were asked separately, they reported that 43% of households had received income from *zaqat.* It is not clear whether women received the money or food separately from the men or whether they just felt more comfortable about reporting it. Having 43% of households receive *zaqat* was high compared to other sentinel sites. Apparently, Lashie has a strong Islamic tradition that encourages the generous giving of *zaqat* because the village has many Sayyads or "grandsons of the prophet".

**Capacity to Cope: Coping Strategies**
Only 1 household in Lashie thought its income had decreased in the previous 4 months, but 32.5% of households thought their income had decreased during the previous year. The decrease from 2002 may be attributed to the disappointing 2003 harvest after the great 2002 harvest. Of the 13 households reporting a decrease since 2002, 9 were poor households. A high proportion of poor households depend purely on rainfed crop production so they experienced a harsh decline in their yields between 2002 and rain starved 2003.




In contrast, 70% of households said their total income had increased in the previous 4 months and 67.5% said income had increased or stayed the same since the previous year. This suggests that a significant proportion of Lashie households followed coping strategies that maintained their resilience despite a bad cereal harvest and the destruction of their fruit tree and vineyard crops, probably through poppy cultivation. However, nearly one-third of households remained vulnerable to such adversities despite a general rebound from the drought.

Information collected on coping behaviors that can signal declining livelihood and food security corroborates these findings. The coping strategies listed in this section do not include all the ways that households may take to survive tough times. Instead, they include only those strategies that are easily measured. The list has been divided into erosive and non-erosive coping strategies to better understand the long-term effects of different choices on a household's future livelihood security. The division is not mutually exclusive. The order in the list does not reflect a continuum of increasing desperation. The non-erosive strategy list does attempt to capture some adaptive strategies such as livelihood adjustments, income diversification, or consumption rationing. Finally, the coping strategies in the lists are to be considered options that, when chosen, signal a worsening situation. However, the listed strategies may also capture the behavior of vulnerable and chronically poor households that have no options and engage in these activities because they have to on a normal basis.

**Non-erosive Coping Strategies**

In general the results from coping behavior indicators did not signal major concern for most households in the Lashie area. First of all, the data reveal that during the previous 4 months a small portion of households had sold non-productive assets in order to manage their income flows. For example, 33% of households sold household *gilims* and 2.5% sold household furniture to cover daily expenses. The reasons behind these asset sales could be quite varied and it should not be assumed these households were in declining livelihood situations. Normally at the time of the year the survey was taken, households sell assets to cover the cost of winter preparations. *Gilims* may also be sold to cover expenses for weddings, hospital bills, livestock purchases, or poppy seeds. However, half the households selling *gilims* from their households also felt a decline in income over the previous year, so they were likely compensating their incomes during a difficult period.

| **Non-Erosive Coping Strategies** (last 4 months) (n = 40) | % |
|---|---|
| Migrated for labor | 0 |
| Begging | 5 |
| Worked more hours to make daily expenses | 100 |
| Borrowed food from relatives to make a meal | 90 |
| Sold carpet/*gilim* from the house to cover daily expenses | 33 |
| Sold house furniture to cover daily expenses | 3 |
| Sold house parts (windows, doors) to cover daily expenses | 0 |
| Sold bicycle to cover daily expenses | 0 |
| Sold jewelry to cover daily expenses | 0 |
| Sold motorcycle/car to cover daily expenses | 0 |
| Ate stale bread | 18 |

Additionally, 7 households had resorted to eating stale bread during the previous 4 harvest months. Poor and medium-income households in Lashie ate more stale bread than in other sentinel sites. In fact, medium-income households in other sentinel sites never mentioned eating stale bread at all. Finally, 2 households reported begging as an income source during the previous 4 months.

All the households in Lashie worked longer hours during the previous 4 months. These numbers are likely so high because the survey period was during the harvest. A full 90% of households had borrowed food from relatives to make a meal. This figure is similar to other rural locations suggesting the presence of strong family networks rather than a declining livelihood situation.

**Erosive and Distress Coping Strategies**

Besides the usual coping mechanisms used to meet daily expenses, a small proportion of households chose options that are potentially erosive to future livelihoods. In Lashie, 18% of households took food on credit from a local shop. Most of these debts were repaid within a few days, but some households said they would have to continue borrowing throughout the winter.

| **Erosive Coping Strategies (n = 40)** | **%** |
|---|---|
| Took a loan (men) | 38 |
| Took a loan (women) | 5 |
| Sold or mortgaged land, house or shop | 0 |
| Took food on credit from a shop to make a meal | 18 |
| Sold sewing machine or loom | 0 |
| Sold handcart | 0 |
| Sold grinder | 0 |
| Sold tractor/combine/other agricultural machinery | 0 |
| Married daughter early | 0 |
| Sent son(s) to military | 0 |
| Sent son(s) to work as indentured labor | 20 |
| Household left community | 0 |

During the previous 4 months, 20% of households sent their sons to work as indentured labor. This was considered a beneficial arrangement because families could earn extra income. It also suggests that some households in the community could afford to pay children to do domestic tasks.

During the previous 4 months, 37.5% of households took loans. These loans were used to cover weddings, funerals, construction of homes, donkey purchases, and daily living expenses. Some of these loans actually signaled an improvement in livelihood security as households were willing to take the risk to invest in asset accumulation. The households that took the loans to cover daily expenses already had had loans and were actually going further into debt.

**Capacity to Cope: Risk and Vulnerability**

Diversity of income sources can be scored using a similar method as used in assessing dietary diversity. They have an average income diversity score of 3.83, with poor households having the highest average score at 3.96, medium-income households scoring 3.75, and better-off households scoring 3.25, signifying the fewest livelihood options. The higher diversity score for poor households may indicate poor households diversifying their livelihood strategies to mitigate future risk of shocks or it may be a sign of their chronic livelihood insecurity, given that 50% of

| **Average Income Diversity Score** | |
|---|---|
| **Better-off** | 3.25 |
| **Medium-income** | 3.75 |
| **Poor** | 3.96 |
| **All households** | 3.83 |

poor households had income from loans during this period and 40% had income from tithes.

All households do not have the same ability to rebuild after a drought or to survive a poor harvest. During a poor harvest year, some households do not even have enough stocks to avoid livelihood asset depletion or incurring debts in order to survive the winter. These households can be characterized as ones that have no irrigated land, have a small amount of rainfed land, have a small number of livestock, have large debt load relative to income, send their sons to work for others, have their main income source from women work for wages on *gilims* or wool spinning, eat stale bread, and have a household member begging for money or food.

**CONCLUSION: LIVELIHOOD SECURITY SUPPORT**
Lashie village and the surrounding area experience normal livelihood security circumstances compared to other parts of Kohistan District. Households have developed, and continue to develop, effective behaviors to buffer themselves from the effects of poor harvest years without too much loss. However, some of their buffering strategies, such as eating stale bread, have detrimental consequences for human health.

Options for supporting socially-acceptable livelihood outcomes are presented in the table below. These options are conceptually arranged so they illustrate how they would support five categories of livelihood assets.[10] Before initiating any of these projects the broader political and social context in which these communities work needs to be further explored to understand if the projects are truly possible. Potential spill-over effects, including the constraints imposed by the seasonality of agricultural labor demands, deserve serious consideration.

[10] The five categories are taken from the DFID Livelihoods Framework model and the format of the table is based on work done by Adam Pain in his "Livelihoods Under Stress in Faryab Province" paper (2001).

| OPPORTUNITIES FOR SUPPORTING SOCIALLY ACCEPTABLE LIVELIHOOD OUTCOMES | | | | |
|---|---|---|---|---|
| **Capital base** | **Asset** | **Means** | **Group** | **Livelihood outcome*** |
| **Natural** | Pistachio forests | Support and extension of current forests through Ministry of Agriculture and Animal Husbandry | men | Increased pistachio production and strengthened livelihood opportunities for households |
| | Grazing land | Manage grazing land-use through MAAH – to avoid encroachment of crop cultivation and over-use | men | Strengthened livestock assets and supporting public assets. |
| **Physical** | Livestock | Set up clinics/veterinary services through MAAH in the area. Treat village livestock. | livestock owners | Strengthened livestock assets by increasing health of livestock. |
| | Water pipeline | Extend spring water through pipes into the village and build water pools for the village livestock – food/cash-for-work projects | all groups. | Increased water safety and water availability for livestock and people. |
| | Water storage | Construct water storage facilities at the spring to improve access to safe water. | all groups | Increased availability of safe drinking water |
| | | Construct water storage with overflows where cattle can drink. | livestock owners | Increased availability of water for livestock; decreased use of safe drinking water sources by livestock (pollution) |
| | *Dand* creation | Create *dands* in the rainfed mountains to increase water access for livestock/cattle | all groups | Increased availability of drinking water and water for crop production |
| | School | Establish/build schools through Ministry of Education. Conduct teacher training, especially for women, to have better and more female teachers | children | Increased children educations. |
| | Community toilets | Support communities to build community toilets. Implement health education to promote the building and using of the toilets | all groups | Reduced morbidity |
| **Financial** | Credit | Provide credit for individual households and communities for small scale investment in income generating activities | all groups | Increased access to cash |
| **Human** | Human health | Conduct health and nutrition education, establish heath posts, train midwives, and implement of measles vaccinations; conduct health education on EPI to increase the use of the EPI center in Lawlash | all groups | Reduced risk of mortality and morbidity and improved nutritional status; improved work outputs. |
| | Education of children | Set up literacy courses through literacy department of Ministry of Education. | children | Improved self-worth and productivity |
| | Self-worth | Set up handicraft projects for women [11] | women | Increased household livelihood opportunities – increased self-worth of women and role in economic decisions |
| **Social** | Already existing village social structures for group projects | Run projects through existing social structures | various | Strengthened social structures supporting community in the future |
| | Safety net institutions at district level | Run food-for-work or cash-for-work projects through district level administration | local government | Strengthened government structures supporting political and economic processes |

[11] Almost 80 percent of women correspondents noted that *gilim* and handicraft projects would be very useful in their community.

## NSS METHODOLOGY OVERVIEW[1]

The National Surveillance System (NSS) is based on a sentinel site system. These sentinel sites are tracked over time to monitor changes in food security, livelihoods, and nutritional status. The sampling methodology is based on a multi-stage sample selection process and incorporates both urban and rural areas in the sample. The table and narrative steps below detail the process used to determine the stratification framework and levels of the sample.

| Rural strata | Urban strata | Rural Representation and Method of Division | Urban Representation and Method of Division |
|---|---|---|---|
| Provinces | Provinces | Every province is to be represented in the surveillance system. 33 provinces are divided according to Ministry of Interior definition of provincial boundaries. | |
| Districts | Urban Areas | Every rural district is to be represented in the surveillance system. Rural districts are divided according to Ministry of Interior definitions, except in the cases where currently recognized local administrative boundaries differ. | Urban areas are defined as having a population over 500,000, >100 shops and permanent food market. These include Kabul, Mazar-i Sharif, Kandahar, Herat, Jalalabad, Kunduz. |
| Livelihood Zone | Livelihood Groupings | Districts are divided into ago-ecological or livelihood zones. | Urban centers are divided into *nahia*, which is the sub-unit of an urban area used by the Central Statistic Office. *Nahias* in the urban setting are categorized into livelihood groupings. |
| Sentinel Site – Villages or Mosque Areas | Sentinel Site – Urban Blocks | One settlement or mosque area within a settlement is selected from each livelihood zone as the sentinel site. | A block is selected from each of the livelihood groupings. If the block is not large enough for a sufficient sample, then a neighboring block will also be included in the sample. |
| Wealth groups | Not applicable | In each sentinel site settlement, a wealth group breakdown is conducted in which all the households will be categorized into three wealth groups; poor, medium, and better off. | Because people do not have detailed information on households in their blocks, it is difficult to implement a wealth group breakdown. |
| Households | Households | Households are randomly selected proportional to actual representation in the population of households within the three wealth groups. The number of households selected and the selection process is detailed below. | Households are randomly selected from the block. |
| Individuals | Individuals | Individuals are selected from each household in the survey. Selection of individuals is only necessary for measuring certain indicators (i.e. anthropometric status) and will be based on the case definition of the indicator. | |

The steps for defining livelihood zones and household selection for rural application of the NSS sampling methodology are explained below, and these steps can also be applied to the corresponding urban strata discussed in the table above.

### Defining Livelihood Zones within a District

The first step completed in defining a livelihood zone was to find information on the following subjects in all settlements in a district, or as many as possible.

**Defining Criteria:**

- Agro-ecological context (topological/geological/soil description, water, land-cover/land-use)
- Economic resources and activity (sources of income and food, access to markets)
- Services (health, education, water, roads, other services)
- People (ethnicity, number of households in settlement).

Once the information was collected, the district was separated into livelihood zones based on *agro-ecological context* and *economic resources and activity* features. *Services* and *people* features were also considered but were not usually the basis for livelihood zone distinction.[2]

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[1] Information on the methodology can be found in the NSS methodology document on http://www.mrrd.gov.af/vau/

[2] In some areas of implementation, the agro-ecological zones used by the 2002 WFP-implemented *Country-wide Food Needs Assessment* were used to define livelihood zones.

**Sentinel Site Selection**
Since sentinel sites are meant to be representative of their zone, the site, to the extent possible, was selected to mirror the majority of the settlements in the livelihood zone with respect to the defining criteria mentioned above. Inevitably, it is impossible to find homogeneity across all of these indicators, thus *agro-ecological context* and *economic resources and activities* were given a priority. Additional factors that were considered when choosing a sentinel site included:

- Population of sentinel site should be representative of a majority of settlements in the zone
- Distance from roads and markets relative to other villages/towns in zone
- Presence of other related surveys in order to avoid survey fatigue
- Permission by local authorities and community leaders.

**Wealth Group Differentiation**
As part of focus group discussions, government surveillance unit teams separately asked male and female focus group members to identify how the people in the community define wealth and then define better off, medium and poor households. Once these characteristics were agreed upon, both male and female teams used the list created in the male focus group of all households in the community to place each household into a wealth group category and then asked for the rationale behind the placement. From here male and female lists were checked to find out when the households had been assigned to a different wealth group. If households were different, male and female surveyors together had to decide on a mutually agreeable placement for the households, either by following up with focus group members or by noting that one group had a knowledge gap regarding the household under discussion.

**Household Selection**

For the purpose of the national surveillance system, a household is defined as a group of individuals sharing income and expenditure and that are living within the same compound. Households were randomly selected proportional to their actual representation in the population within the three wealth groups. The number of households surveyed depended on the size of the sentinel site. If the settlement had over 200 households, a mosque area or a distinct community area was selected as the sentinel site. For nomadic populations of less than 50 households, it was recommended to include all households if possible.

| Total households in village | Number of households selected |
|---|---|
| < 50 | All households if possible |
| 50 - 75 | 20 |
| 76- 99 | 30 |
| 100-200 | 40 |
| > 200 | Choose community within village as sentinel site |

**Selection of Individuals**
Selection of individuals within households was only necessary for measuring certain anthropometric status. In this case, all individuals in selected households meeting the case definition criteria for these indicators were included in the survey

**Data Collection Instruments and Fieldwork**
Data collection for the NSS was originally envisioned to occur three times a year,[3] and the fall round 2003 was the first round using standardized questionnaires. The male and female sentinel site questionnaires included focus group discussions with male and female elders. The male household questionnaire was asked to the male head of household and the female household questionnaire was asked to the female head of household. Many of the questions included in the NSS standardized questionnaires referenced the period four months prior to the survey in order to gain an understanding of issues of seasonality in relation to livelihood strategies, food security and risk to lives. The market survey questionnaire collected data at the provincial capital as well as at the main permanent food market nearest to each sentinel site on a monthly basis.

Government surveillance data collection teams consisted of one NGO supervisor, two staff from MRRD (one male and one female), two staff from MAAH (one male and one female) and two other casual staff. They were all trained on the surveillance system project as well as the implementation of the questionnaires.

[3] Lessons learned from the fall round suggested that collecting data three times a year was neither financially feasible nor necessary for most locations. The pilot NSS collected only a second round of data in spring 2004